An Essay Concerning Human Understanding

JOHN LOCKE
1632–1704

An Essay Concerning Human Understanding

The 1706 text

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An Essay Concerning Human Understanding · John Locke (1632–1704)

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INTRODUCTION

Where does everything we know come from? John Locke's answer in *An Essay Concerning Human Understanding* (1690), the founding work of British empiricism, is experience. The mind begins as "white paper, void of all characters," and every idea it will ever have comes from sensation or from reflection on its own workings.

Book I attacks the doctrine of innate ideas. Book II traces all our ideas, from colors and solidity to space, time, power, substance and personal identity, back to experience, and gives the famous distinction between primary and secondary qualities. Book III turns to language and the difference between nominal and real essences. Book IV asks how far knowledge reaches, and where belief, probability and faith must take over.

The right-hand column is Locke in modern English: the same arguments and examples, in sentences a reader today can move through easily. The left-hand column is Locke's own text.

Epistles; Book I: Of Innate Notions

The dedication and the Epistle to the Reader, then Locke's case that no principles or ideas are innate.

THE EPISTLE DEDICATORY: TO THE RIGHT HONOURABLE THOMAS, EARL OF PEMBROKE AND MONTGOMERY

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Ded.1	My Lord,	My Lord,[1]
Ded.2	This Treatise, which is grown up under your lordship's eye, and has ventured into the world by your order, does now, by a natural kind of right, come to your lordship for that protection, which you several years since promised it. It is not that I think any name, how great soever, set at the beginning of a book, will be able to cover the faults that are to be found in it. Things in print must stand and fall by their own worth, or the reader's fancy.	This treatise, which has grown up under your lordship's eye and has ventured into the world at your order, now comes to your lordship, by a natural kind of right, for the protection you promised it several years ago. It isn't that I think any name, however great, placed at the beginning of a book will be able to cover the faults to be found in it. Things in print must stand or fall by their own worth, or by the reader's fancy.
	But there being nothing more to be desired for truth than a fair, unprejudiced hearing, nobody is more like to procure me that than your lordship, who is allowed to have got so intimate an acquaintance with her, in her more retired recesses. Your lordship is known to have so far advanced your speculations in the most abstract and general knowledge of things beyond the ordinary reach, or common methods, that your allowance and approbation of the design of this treatise will at least preserve it from being condemned without reading; and will prevail to have those parts a little weighed, which might otherwise, perhaps, be thought to deserve no consideration, for being somewhat out of the common road.	But nothing is more to be desired for truth than a fair, unprejudiced hearing, and nobody is more likely to get me that than your lordship, who is acknowledged to have become intimately acquainted with her, even in her more hidden recesses. Your lordship is known to have carried your speculations in the most abstract and general knowledge of things so far beyond the ordinary reach and the common methods that your approval of the design of this treatise will at least keep it from being condemned without being read. It will also win a little weighing for those parts that might otherwise, perhaps, be thought to deserve no consideration because they are somewhat off the common road.
	The imputation of novelty is a terrible charge among those who judge of men's heads, as they do of their perukes, by the fashion; and can allow none to be right, but the received doctrines. Truth scarce ever yet carried it by vote any where at its first appearance: new opinions are always suspected, and usually opposed without any other reason, but because they are not already	The charge of novelty is a terrible one among those who judge men's heads the way they judge their wigs, by the fashion, and who can allow nothing to be right except the received doctrines. Truth has hardly ever yet won the vote anywhere when it first appeared. New opinions are always suspected, and usually opposed for no other reason than that they are not already common. But

1 Thomas Herbert, 8th Earl of Pembroke (1656–1733), statesman, president of the Royal Society in 1689–90, and Locke's patron.

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common. But truth, like gold, is not the less so for being newly brought out of the mine.

It is trial and examination must give it price, and not any antique fashion: and though it be not yet current by the public stamp; yet it may, for all that, be as old as nature, and is certainly not the less genuine. Your lordship can give great and convincing instances of this, whenever you please to oblige the public with some of those large and comprehensive discoveries you have made of truths hitherto unknown, unless to some few, from whom your lordship has been pleased not wholly to conceal them.

This alone were a sufficient reason, were there no other, why I should dedicate this Essay to your lordship; and its having some little correspondence with some parts of that nobler and vast system of the sciences your lordship has made so new, exact, and instructive a draught of, I think it glory enough, if your lordship permit me to boast, that here and there I have fallen into some thoughts not wholly different from yours. If your lordship think fit, that, by your encouragement, this should appear in the world, I hope it may be a reason some time or other.

to lead your lordship farther; and you will allow me to say, that you here give the world an earnest of something, that, if they can bear with this, will be truly worthy their expectation. This, my lord, shows what a present I here make to your lordship; just such as the poor man does to his rich and great neighbour, by whom the basket of flowers or fruit is not ill taken, though he has more plenty of his own growth, and in much greater perfection.

Worthless things receive a value, when they are made the offerings of respect, esteem, and gratitude: these you have given me so mighty and peculiar reasons to have, in the highest degree, for your lordship, that if they can add a price to what they go along with, proportionable to their own greatness, I can with confidence brag, I here make your lordship the richest present you ever received. This I am sure, I am under the greatest obligations to seek all occasions to acknowledge a long train of favours I have received from your lordship: favours, though great and important in themselves, yet made much more so by the forwardness, concern, and kindness, and other

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truth, like gold, is no less itself for being newly brought out of the mine.

It is trial and examination that must give it its value, not any antique fashion. And though it may not yet be current under the public stamp, it may for all that be as old as nature, and it is certainly no less genuine. Your lordship can give great and convincing examples of this whenever you choose to oblige the public with some of the large and comprehensive discoveries you have made of truths so far unknown, except to a few from whom your lordship has been pleased not to conceal them entirely.

This alone would be reason enough, if there were no other, for me to dedicate this Essay to your lordship. As for its having some slight correspondence with parts of that nobler and vast system of the sciences of which your lordship has drawn so new, exact, and instructive an outline, I think it glory enough, if your lordship will let me boast of it, that here and there I have fallen into some thoughts not wholly different from yours. If your lordship thinks fit that this should appear in the world through your encouragement, I hope it may some day be a reason

to lead your lordship further. And you will allow me to say that you are here giving the world a pledge of something that, if they can put up with this, will be truly worthy of their expectation. This, my lord, shows what kind of present I am making your lordship here. It is just the kind a poor man makes to his rich and great neighbor, who does not take the basket of flowers or fruit amiss, though he has more plenty of his own growing, and in much greater perfection.

Worthless things acquire a value when they are made offerings of respect, esteem, and gratitude. You have given me such powerful and particular reasons to feel these for your lordship in the highest degree that, if they can add value to what they accompany in proportion to their own greatness, I can confidently boast that I am here making your lordship the richest present you ever received. This much I am sure of: I am under the greatest obligation to seek every occasion to acknowledge a long train of favors I have received from your lordship. Those favors were great and important in themselves, and yet they were made much more so by the eagerness, concern, kind-

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	obliging circumstances, that never failed to accompany them.	ness, and other obliging circumstances that never failed to accompany them.
	To all this, you are pleased to add that which gives yet more weight and relish to all the rest: you vouchsafe to continue me in some degrees of your esteem, and allow me a place in your good thoughts; I had almost said friendship. This, my lord, your words and actions so constantly show on all occasions, even to others when I am absent, that it is not vanity in me to mention what every body knows: but it would be want of good manners, not to acknowledge what so many are witnesses of, and every day tell me I am indebted to your lordship for.	To all this you are pleased to add something that gives still more weight and relish to all the rest: you are kind enough to keep me in some degree of your esteem, and to allow me a place in your good opinion. I had almost said your friendship. Your words and actions, my lord, show this so constantly and on all occasions, even to others when I am absent, that it is not vanity in me to mention what everybody knows. Rather, it would be bad manners not to acknowledge what so many witness, and what they tell me every day I owe to your lordship.
	I wish they could as easily assist my gratitude, as they convince me of the great and growing engagements it has to your lordship. This, I am sure, I should write of the understanding without having any, if I were not extremely sensible of them, and did not lay hold on this opportunity to testify to the world, how much I am obliged to be, and how much I am, My Lord,	I wish they could help my gratitude as easily as they convince me of the great and growing obligations it has to your lordship. This much I am sure of: I would be writing about the understanding without having any, if I were not extremely conscious of these obligations and did not seize this opportunity to testify to the world how much I am bound to be, and how much I am, my lord,
Ded.3	Your Lordship's most humble And most obedient servant, JOHN LOCKE.	Your lordship’s most humble and most obedient servant, JOHN LOCKE.
Ded.4	*Dorset-Court*, 24 *May*, 1689.	*Dorset Court*, *May* 24, 1689.

THE EPISTLE TO THE READER

Locke tells how the Essay began among friends, and explains its method, its length and its aims.

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Ep.1	Reader,	Reader,
Ep.2	I here put into thy hands, what has been the diversion of some of my idle and heavy hours: if it has the good luck to prove so of any of thine, and thou hast but half so much pleasure in reading, as I had in writing it, thou wilt as little think thy money, as I do my pains, ill bestowed. Mistake not this for a commendation of my work; nor conclude, because I was pleased with the doing of it, that therefore I am fondly taken with it now it is done.	I here put into your hands what has been the diversion of some of my idle and heavy hours. If it has the good luck to prove a diversion for some of yours, and you take even half as much pleasure in reading it as I had in writing it, you will think your money as little wasted as I think my pains. Don’t mistake this for praise of my work. And don’t conclude that, because I enjoyed doing it, I am foolishly taken with it now that it is done.
	He that hawks at larks and sparrows, has no less sport, though a much less considerable quarry, than he that flies at nobler game: and he is little acquainted with the subject of this treatise, the Understanding, who does not know, that as it is the most elevated faculty of the soul, so it is	Someone who hawks at larks and sparrows has no less sport, though a much less considerable quarry, than someone who flies his hawk at nobler game. The subject of this treatise is the understanding. Anyone who does not know that it is the most elevated faculty of the soul, and is therefore

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employed with a greater and more constant delight than any of the other. Its searches after truth are a sort of hawking and hunting, wherein the very pursuit makes a great part of the pleasure. Every step the mind takes in its progress towards knowledge, makes some discovery, which is not only new, but the best too, for the time at least.	exercised with greater and more constant delight than any of the others, knows little of that subject. Its searches after truth are a sort of hawking and hunting in which the very pursuit makes up a great part of the pleasure. Every step the mind takes in its progress toward knowledge makes some discovery, which is not only new but also the best, for the time being at least.
Ep.3 For the understanding, like the eye, judging of objects only by its own sight, cannot but be pleased with what it discovers, having less regret for what has escaped it, because it is unknown. Thus he who has raised himself above the alms-basket, and, not content to live lazily on scraps of begged opinions, sets his own thoughts on work, to find and follow truth, will (whatever he lights on) not miss the hunter's satisfaction; every moment of his pursuit will reward his pains with some delight, and he will have reason to think his time not ill spent, even when he cannot much boast of any great acquisition.	For the understanding, like the eye, judges objects only by its own sight. So it cannot help being pleased with what it discovers, and it has less regret for what has escaped it, because that is unknown. Take someone who has raised himself above the alms-basket and is not content to live lazily on scraps of begged opinions, and who sets his own thoughts to work to find and follow truth. Whatever he comes upon, he will not miss the hunter’s satisfaction. Every moment of his pursuit will reward his pains with some delight, and he will have reason to think his time not badly spent, even when he cannot boast much of any great acquisition.
Ep.4 This, reader, is the entertainment of those who let loose their own thoughts, and follow them in writing; which thou oughtest not to envy them, since they afford thee an opportunity of the like diversion, if thou wilt make use of thy own thoughts in reading. It is to them, if they are thy own, that I refer myself: but if they are taken upon trust from others, it is no great matter what they are, they not following truth, but some meaner consideration: and it is not worth while to be concerned, what he says or thinks, who says or thinks only as he is directed by another.	This, reader, is the entertainment of those who let their own thoughts loose and follow them in writing. You should not envy them for it, since they give you the opportunity of a similar diversion, if you will use your own thoughts in reading. It is to those thoughts, if they are your own, that I submit myself. But if they are taken on trust from others, it matters little what they are, since they are not following truth but some meaner consideration. And it is not worth caring what someone says or thinks who says or thinks only as another directs him.
If thou judgest for thyself, I know thou wilt judge candidly; and then I shall not be harmed or offended, whatever be thy censure. For though it be certain, that there is nothing in this treatise, of the truth whereof I am not fully persuaded; yet I consider myself as liable to mistakes, as I can think thee, and know that this book must stand or fall with thee, not by any opinion I have of it, but thy own. If thou findest little in it new or instructive to thee, thou art not to blame me for it. It was not meant for those that had already mastered this subject, and made a thorough acquaintance with their own understandings; but for my own information.	If you judge for yourself, I know you will judge fairly, and then I shall not be harmed or offended, whatever your verdict. It is certain that there is nothing in this treatise of whose truth I am not fully persuaded. Yet I consider myself as liable to mistakes as I can think you are, and I know that this book must stand or fall with you, not by any opinion I have of it, but by your own. If you find little in it that is new or instructive to you, you should not blame me for that. It was not meant for those who had already mastered this subject and become thoroughly acquainted with their own understandings, but for my own instruction

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and the satisfaction of a few friends, who acknowledged themselves not to have sufficiently considered it. Were it fit to trouble thee with the history of this Essay, I should tell thee, that five or six friends meeting at my chamber, and discoursing on a subject very remote from this, found themselves quickly at a stand, by the difficulties that rose on every side.

After we had a while puzzled ourselves, without coming any nearer a resolution of those doubts which perplexed us, it came into my thoughts, that we took a wrong course: and that before we set ourselves upon inquiries of that nature, it was necessary to examine our own abilities, and see what objects our understandings were, or were not, fitted to deal with. This I proposed to the company, who all readily assented; and thereupon it was agreed, that this should be our first inquiry.

Some hasty and undigested thoughts on a subject I had never before considered, which I set down against our next meeting, gave the first entrance into this discourse; which having been thus begun by chance, was continued by entreaty; written by incoherent parcels; and after long intervals of neglect, resumed again, as my humour or occasions permitted; and at last, in a retirement, where an attendance on my health gave me leisure, it was brought into that order thou now seest it.

Ep.5 This discontinued way of writing may have occasioned, besides others, two contrary faults, viz. that too little and too much may be said in it. If thou findest any thing wanting, I shall be glad, that what I have writ gives thee any desire that I should have gone farther: if it seems too much to thee, thou must blame the subject; for when I put pen to paper, I thought all I should have to say on this matter would have been contained in one sheet of paper; but the farther I went, the larger prospect I had; new discoveries led me still on, and so it grew insensibly to the bulk it now appears in.

I will not deny, but possibly it might be reduced to a narrower compass than it is; and that some parts of it might be contracted; the way it has been writ in, by catches, and many long intervals of interruption, being apt to cause some

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and the satisfaction of a few friends, who admitted that they had not considered it sufficiently. If it were fitting to trouble you with the history of this Essay, I would tell you that five or six friends were meeting in my room and discussing a subject very remote from this one. They quickly found themselves at a standstill because of the difficulties that arose on every side.

After we had puzzled ourselves for a while without coming any nearer to resolving the doubts that perplexed us, it occurred to me that we were taking the wrong course. Before we set ourselves to inquiries of that kind, it was necessary to examine our own abilities and see what objects our understandings were, or were not, fitted to deal with. I proposed this to the company, who all readily agreed, and it was then settled that this should be our first inquiry.

For our next meeting I wrote down some hasty and undigested thoughts on a subject I had never considered before, and these were the first beginning of this discourse. Having been begun in this way by chance, it was continued at others' urging. It was written in disconnected pieces, and after long intervals of neglect it was taken up again as my mood or circumstances permitted. At last, in a retirement where looking after my health gave me leisure, it was brought into the order you now see.

This interrupted way of writing may have caused, among other faults, two opposite ones: namely, that too little and too much may be said in it. If you find anything missing, I shall be glad that what I have written gives you some wish that I had gone further. If it seems too much to you, you must blame the subject. When I first put pen to paper, I thought all I would have to say on this matter could be contained in one sheet of paper. But the further I went, the wider my prospect became. New discoveries kept leading me on, and so it grew imperceptibly to the bulk it now has.

I won't deny that it might possibly be reduced to a narrower compass than it has, and that some parts of it might be shortened. It was written in snatches, with many long interruptions, and that way of writing is apt to cause some repetitions.

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repetitions. But to confess the truth, I am now too lazy, or too busy to make it shorter.

Ep.6 I am not ignorant how little I herein consult my own reputation, when I knowingly let it go with a fault, so apt to disgust the most judicious, who are always the nicest readers. But they who know sloth is apt to content itself with any excuse, will pardon me, if mine has prevailed on me, where, I think, I have a very good one.

I will not therefore allege in my defence, that the same notion, having different respects, may be convenient or necessary to prove or illustrate several parts of the same discourse; and that so it has happened in many parts of this: but waiving that, I shall frankly avow, that I have sometimes dwelt long upon the same argument, and expressed it different ways, with a quite different design.

I pretend not to publish this Essay for the information of men of large thoughts, and quick apprehensions; to such masters of knowledge I profess myself a scholar, and therefore warn them beforehand not to expect any thing here, but what, being spun out of my own coarse thoughts, is fitted to men of my own size; to whom, perhaps, it will not be unacceptable, that I have taken some pains to make plain and familiar to their thoughts some truths, which established prejudice, or the abstractedness of the ideas themselves, might render difficult.

Some objects had need be turned on every side; and when the notion is new, as I confess some of these are to me, or out of the ordinary road, as I suspect they will appear to others; it is not one simple view of it, that will gain it admittance into every understanding, or fix it there with a clear and lasting impression. There are few, I believe, who have not observed in themselves or others, that what in one way of proposing was very obscure, another way of expressing it has made very clear and intelligible: though afterward the mind found little difference in the phrases, and wondered why one failed to be understood more than the other.

But every thing does not hit alike upon every man's imagination. We have our understandings no less different than our palates; and he that thinks the same truth shall be equally relished by

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But to confess the truth, I am now too lazy, or too busy, to make it shorter.

I am well aware how little I consult my own reputation here, when I knowingly let the book go out with a fault so apt to disgust the most judicious readers, who are always the most fastidious. But those who know that laziness is apt to be content with any excuse will pardon me if mine has prevailed with me here, where I think I have a very good one.

So I will not plead in my defense that the same notion, seen in different respects, may be convenient or necessary for proving or illustrating several parts of the same discourse, and that this has happened in many parts of this one. Setting that aside, I will frankly admit that I have sometimes dwelt long on the same argument and expressed it in different ways, with a quite different purpose.

I do not claim to publish this Essay for the instruction of men of large thoughts and quick understanding. To such masters of knowledge I declare myself a pupil. I therefore warn them in advance to expect nothing here but what has been spun out of my own coarse thoughts and is suited to men of my own size. Such men, perhaps, will not be displeased that I have taken some pains to make plain and familiar to their thoughts some truths that established prejudice, or the abstractness of the ideas themselves, might make difficult.

Some objects need to be turned on every side. A notion may be new, as I confess some of these are to me, or off the ordinary road, as I suspect they will seem to others. Then a single simple view of it will not get it admitted into every understanding, or fix it there with a clear and lasting impression. There are few people, I believe, who have not noticed in themselves or others that something very obscure when put one way has been made very clear and intelligible by another way of expressing it. Yet afterward the mind found little difference between the phrasings, and wondered why one failed to be understood more than the other.

But not everything strikes every man's imagination alike. Our understandings differ no less than our palates. Someone who thinks the same truth will be equally relished by everyone in the same

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every one in the same dress, may as well hope to feast every one with the same sort of cookery: the meat may be the same, and the nourishment good, yet every one not be able to receive it with that seasoning; and it must be dressed another way, if you will have it go down with some even of strong constitutions.

The truth is, those who advised me to publish it, advised me, for this reason, to publish it as it is: and since I have been brought to let it go abroad, I desire it should be understood by whoever gives himself the pains to read it; I have so little affection to be in print, that if I were not flattered this Essay might be of some use to others, as I think it has been to me, I should have confined it to the view of some friends, who gave the first occasion to it.

My appearing therefore in print, being on purpose to be as useful as I may, I think it necessary to make what I have to say as easy and intelligible to all sorts of readers as I can. And I had much rather the speculative and quick-sighted should complain of my being in some parts tedious, than that any one, not accustomed to abstract speculations, or prepossessed with different notions, should mistake, or not comprehend my meaning.

Ep.7 It will possibly be censured as a great piece of vanity or insolence in me, to pretend to instruct this our knowing age; it amounting to little less, when I own, that I publish this Essay with hopes it may be useful to others.

But if it may be permitted to speak freely of those, who with a feigned modesty condemn as useless, what they themselves write, methinks it savours much more of vanity or insolence, to publish a book for any other end; and he fails very much of that respect he owes the public, who prints, and consequently expects men should read that, wherein he intends not that they should meet with any thing of use to themselves or others: and should nothing else be found allowable in this treatise, yet my design will not cease to be so; and the goodness of my intention ought to be some excuse for the worthlessness of my present.

It is that chiefly which secures me from the fear of censure, which I expect not to escape more than better writers. Men's principles, notions, and relishes are so different, that it is hard to find a

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dress might as well hope to feast everyone with the same kind of cooking. The meat may be the same and the nourishment good, and yet not everyone may be able to take it with that seasoning. It must be prepared another way if you want it to go down with some people, even some of strong constitutions.

The truth is that those who advised me to publish it advised me, for this reason, to publish it as it is. And since I have been brought to let it go out into the world, I want it to be understood by whoever takes the trouble to read it. I have so little desire to be in print that, if I did not flatter myself that this Essay might be of some use to others, as I think it has been to me, I would have kept it for the eyes of a few friends, who gave the first occasion for it.

Since my appearing in print, then, is precisely in order to be as useful as I can, I think it necessary to make what I have to say as easy and intelligible to all sorts of readers as possible. I would much rather have speculative and quick-sighted readers complain that I am tedious in some parts than have anyone mistake or fail to grasp my meaning because he is unaccustomed to abstract speculations or already committed to different notions.

It will perhaps be condemned as a great piece of vanity or insolence in me to presume to instruct this knowing age of ours. And it comes to little less when I admit that I publish this Essay in the hope that it may be useful to others.

But some writers, with a pretended modesty, condemn as useless what they themselves write. If I may speak freely of them, it seems to me that publishing a book for any other purpose smacks much more of vanity or insolence. Someone who prints something, and so expects people to read it, while not intending them to find anything useful in it for themselves or others, falls far short of the respect he owes the public. Even if nothing else in this treatise should be found acceptable, my purpose will not cease to be so; and the goodness of my intention ought to be some excuse for the worthlessness of my gift.

It is chiefly this that frees me from fear of criticism, which I do not expect to escape any more than better writers do. Men's principles, notions, and tastes are so different that it is hard to find a

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book which pleases or displeases all men. I acknowledge the age we live in is not the least knowing, and therefore not the most easy to be satisfied. If I have not the good luck to please, yet nobody ought to be offended with me. I plainly tell all my readers, except half a dozen, this treatise was not at first intended for them; and therefore they need not be at the trouble to be of that number.

But yet if any one thinks fit to be angry, and rail at it, he may do it securely: for I shall find some better way of spending my time than in such kind of conversation. I shall always have the satisfaction to have aimed sincerely at truth and usefulness, though in one of the meanest ways.

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book that pleases or displeases everyone. I acknowledge that the age we live in is not the least knowing, and therefore not the easiest to satisfy. If I don't have the good luck to please, still nobody ought to be offended with me. I tell all my readers plainly, except half a dozen, that this treatise was not originally intended for them, and so they need not go to the trouble of being among its readers.

Still, if anyone sees fit to be angry and rail at it, he may do so safely, for I shall find some better way of spending my time than in that sort of conversation. I shall always have the satisfaction of having aimed sincerely at truth and usefulness, though in one of the humblest ways.

THE UNDER-LABORER

Locke casts himself as an under-laborer clearing away the rubbish of learned jargon.

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The commonwealth of learning is not at this time without master-builders, whose mighty designs in advancing the sciences, will leave lasting monuments to the admiration of posterity: but every one must not hope to be a Boyle, or a Sydenham: and in an age that produces such masters, as the great Huygenius, and the incomparable Mr Newton, with some others of that strain, it is ambition enough to be employed as an under-labourer in clearing the ground a little, and removing some of the rubbish that lies in the way to knowledge;

which certainly had been very much more advanced in the world, if the endeavours of ingenious and industrious men had not been much cumbered with the learned but frivolous use of uncouth, affected, or unintelligible terms, introduced into the sciences, and there made an art of, to that degree, that philosophy, which is nothing but the true knowledge of things, was thought unfit, or incapable to be brought into well-bred company, and polite conversation.

Vague and insignificant forms of speech, and abuse of language, have so long passed for mysteries of science; and hard and misapplied words, with little or no meaning, have, by

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The commonwealth of learning is not without its master builders at present, and their mighty designs for advancing the sciences will leave lasting monuments for posterity to admire. But not everyone can hope to be a Boyle or a Sydenham. And in an age that produces such masters as the great Huygens and the incomparable Mr. Newton, along with some others of that kind, it is ambition enough to be employed as an under-laborer in clearing the ground a little, and removing some of the rubbish that lies in the way to knowledge.[2]

That knowledge would certainly have advanced much further in the world if the efforts of ingenious and industrious men had not been heavily encumbered by the learned but frivolous use of uncouth, affected, or unintelligible terms. These terms were introduced into the sciences and made into an art there, to such a degree that philosophy, which is nothing but the true knowledge of things, was thought unfit, or incapable, to be brought into well-bred company and polite conversation.

Vague and meaningless forms of speech, and the abuse of language, have passed for mysteries of science for so long, and hard and misapplied words with little or no meaning have by long cus-

2 Robert Boyle (1627–1691), chemist and natural philosopher; Thomas Sydenham (1624–1689), physician and Locke's collaborator; Christiaan Huygens (1629–1695), Dutch mathematician and physicist; Isaac Newton, whose *Principia* had appeared in 1687.

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prescription, such a right to be mistaken for deep learning, and height of speculation, that it will not be easy to persuade either those who speak, or those who hear them, that they are but the covers of ignorance, and hinderance of true knowledge.	tom acquired such a right to be mistaken for deep learning and lofty speculation, that it will not be easy to persuade anyone that they are only covers for ignorance and hindrances to true knowledge. That goes both for those who speak them and for those who hear them.
To break in upon the sanctuary of vanity and ignorance, will be, I suppose, some service to human understanding; though so few are apt to think they deceive or are deceived in the use of words, or that the language of the sect they are of has any faults in it, which ought to be examined or corrected; that I hope I shall be pardoned, if I have in the third book dwelt long on this subject, and endeavoured to make it so plain, that neither the inveterateness of the mischief, nor the prevalence of the fashion, shall be any excuse for those who will not take care about the meaning of their own words, and will not suffer the significancy of their expressions to be inquired into.	To break into the sanctuary of vanity and ignorance will, I suppose, be some service to human understanding. Yet few people are inclined to think that they deceive or are deceived in their use of words, or that the language of their own sect has any faults that ought to be examined or corrected. So I hope I shall be pardoned if in the third book I have dwelt long on this subject. I have tried to make it so plain that neither the deep roots of the mischief nor the prevalence of the fashion will be any excuse for those who will not take care about the meaning of their own words, and will not allow the significance of their expressions to be inquired into.

NOTES ON LATER EDITIONS

Locke describes the changes in the second, fourth and sixth editions, including clear and distinct versus determined ideas.

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Ep.8 I have been told that a short epitome of this treatise, which was printed 1688, was by some condemned without reading, because innate ideas were denied in it; they too hastily concluding, that if innate ideas were not supposed, there would be little left either of the notion or proof of spirits. If any one take the like offence at the entrance of this treatise, I shall desire him to read it through; and then I hope he will be convinced, that the taking away false foundations, is not to the prejudice, but advantage of truth; which is never injured or endangered so much, as when mixed with, or built on, falsehood. In the second edition, I added as followeth:	I have been told that a short abridgment of this treatise, printed in 1688, was condemned by some without being read, because it denied innate ideas. They concluded too hastily that, if innate ideas were not supposed, little would be left of either the notion or the proof of spirits. If anyone takes similar offense at the opening of this treatise, I would ask him to read it through. Then I hope he will be convinced that taking away false foundations is not to the prejudice but to the advantage of truth. Truth is never so much injured or endangered as when it is mixed with falsehood or built on it. In the second edition I added the following:[3]
Ep.9 The bookseller will not forgive me, if I say nothing of this second edition, which he has promised, by the correctness of it, shall make amends for the many faults committed in the former. He desires too, that it should be known, that it has one whole new chapter concerning identity, and many additions and amendments in	The bookseller will not forgive me if I say nothing about this second edition. He has promised that its correctness will make amends for the many errors committed in the first. He also wants it known that it has one entirely new chapter on identity, and many additions and corrections in other places. These, I must tell my reader, are not all new mat-

3 The French abridgment of the Essay published by Jean Le Clerc in his *Bibliothèque universelle et historique* (1688).

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other places. These, I must inform my reader, are not all new matter, but most of them, either farther confirmations of what I had said, or explications, to prevent others being mistaken in the sense of what was formerly printed, and not any variation in me from it; I must only except the alterations I have made in Book II, Chap. 21.	ter. Most of them are either further confirmations of what I had said, or explanations to keep others from mistaking the sense of what was printed before. They are not any change of mind on my part. I must make one exception: the alterations I have made in Book II, Chapter 21.
Ep.10 What I had there writ concerning liberty and the will, I thought deserved as accurate a view as I was capable of: those subjects having in all ages exercised the learned part of the world with questions and difficulties that have not a little perplexed morality and divinity, those parts of knowledge that men are most concerned to be clear in. Upon a closer inspection into the working of men's minds, and a stricter examination of those motives and views they are turned by, I have found reason somewhat to alter the thoughts I formerly had concerning that, which gives the last determination to the will in all voluntary actions.	What I had written there about liberty and the will seemed to me to deserve as careful a review as I was capable of. In every age those subjects have occupied the learned part of the world with questions and difficulties that have greatly perplexed morality and theology, the branches of knowledge in which people are most concerned to be clear. On a closer inspection of the workings of men's minds, and a stricter examination of the motives and views that move them, I have found reason to alter somewhat my former thoughts about what gives the final determination to the will in all voluntary actions.
This I cannot forbear to acknowledge to the world with as much freedom and readiness, as I at first published what then seemed to me to be right; thinking myself more concerned to quit and renounce any opinion of my own, than oppose that of another, when truth appears against it. For it is truth alone I seek, and that will always be welcome to me, when or from whence soever it comes.	I cannot help acknowledging this to the world as freely and readily as I first published what then seemed right to me. When truth appears against an opinion of my own, I think I have more reason to give it up and renounce it than to oppose someone else's opinion. For it is truth alone that I seek, and it will always be welcome to me, whenever it comes and wherever it comes from.
Ep.11 But what forwardness soever I have to resign any opinion I have, or to recede from any thing I have writ upon the first evidence of any error in it; yet this I must own, that I have not had the good luck to receive any light from those exceptions I have met with in print against any part of my book; nor have, from any thing that has been urged against it, found reason to alter my sense in any of the points that have been questioned.	But however ready I am to give up any opinion I hold, or to retract anything I have written, at the first evidence of an error in it, I must admit this. I have not had the good luck to receive any light from the objections I have seen in print against any part of my book. Nor have I found reason, in anything urged against it, to change my view on any of the points that have been questioned.
Whether the subject I have in hand requires often more thought and attention than cursory readers, at least such as are prepossessed, are willing to allow; or whether any obscurity in my expression casts a cloud over it, and these notions are made difficult to others' apprehensions in my way of treating them; so it is, that my meaning, I find, is often mistaken, and I have not the good luck to be every where rightly understood.	Perhaps the subject I am dealing with often demands more thought and attention than cursory readers, or at least prejudiced ones, are willing to give. Or perhaps some obscurity in my expression casts a cloud over it, so that my way of treating these notions makes them hard for others to grasp. Either way, I find that my meaning is often mistaken, and I do not have the good luck to be rightly understood everywhere.

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There are so many instances of this, that I think it justice to my reader and myself to conclude, that either my book is plainly enough written to be rightly understood by those who peruse it with that attention and indifferency, which every one who will give himself the pains to read, ought to employ in reading; or else, that I have writ mine so obscurely, that it is in vain to go about to mend it.

Whichever of these be the truth, it is myself only am affected thereby, and therefore I shall be far from troubling my reader with what I think might be said, in answer to those several objections I have met with to passages here and there of my book; since I persuade myself, that he who thinks them of moment enough to be concerned whether they are true or false, will be able to see, that what is said is either not well founded, or else not contrary to my doctrine, when I and my opposer came both to be well understood.

Ep.12 If any, careful that none of their good thoughts should be lost, have published their censures of my Essay, with this honour done to it, that they will not suffer it to be an Essay; I leave it to the public to value the obligation they have to their critical pens, and shall not waste my reader's time in so idle or ill-natured an employment of mine, as to lessen the satisfaction any one has in himself, or gives to others in so hasty a confutation of what I have written.

Ep.13 The booksellers preparing for the fourth edition of my Essay, gave me notice of it, that I might, if I had leisure, make any additions or alterations I should think fit. Whereupon I thought it convenient to advertise the reader, that besides several corrections I had made here and there, there was one alteration which it was necessary to mention, because it ran through the whole book, and is of consequence to be rightly understood. What I thereupon said was this:

Ep.14 Clear and distinct ideas are terms, which, though familiar and frequent in men's mouths, I have reason to think every one, who uses, does not perfectly understand. And possibly it is but here and there one, who gives himself the trouble to consider them so far as to know what he himself or others precisely mean by them: I have therefore in most places chose to put determinate

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There are so many instances of this that I think it only fair to my reader and myself to conclude one of two things. Either my book is written plainly enough to be rightly understood by those who read it with the attention and impartiality that anyone who takes the trouble to read ought to bring to reading, or else I have written it so obscurely that it is useless to try to mend it.

Whichever of these is the truth, I alone am affected by it. So I shall be far from troubling my reader with what I think might be said in answer to the various objections I have met with to passages here and there in my book. Anyone who thinks those objections important enough to care whether they are true or false will, I am persuaded, be able to see that what is said is either not well founded, or else not contrary to my doctrine, once my opponent and I are both properly understood.

If some people, anxious that none of their good thoughts should be lost, have published their criticisms of my Essay, doing it the honor of not allowing it to remain an essay, I leave it to the public to value the debt it owes to their critical pens. I shall not waste my reader’s time in so idle or ill-natured an occupation as lessening the satisfaction that anyone takes in himself, or gives to others, by so hasty a refutation of what I have written.

When the booksellers were preparing the fourth edition of my Essay, they let me know, so that I might make any additions or alterations I thought fit, if I had the leisure. I then thought it proper to inform the reader that, besides several corrections I had made here and there, there was one alteration that needed mentioning, because it ran through the whole book and it matters that it be rightly understood. What I said on that occasion was this:

Clear and distinct ideas are terms that are familiar and frequently on people’s lips. Yet I have reason to think that not everyone who uses them perfectly understands them. Perhaps only one here and there takes the trouble to consider them far enough to know what he himself or others precisely mean by them. So in most places I have chosen to put determinate or determined instead

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	or determined, instead of clear and distinct, as more likely to direct men's thoughts to my meaning in this matter. By those denominations, I mean some object in the mind, and consequently determined, *i. e.* such as it is there seen and perceived to be.	of clear and distinct, as more likely to direct people's thoughts to my meaning in this matter. By those terms I mean some object in the mind, and consequently determined, that is, such as it is seen and perceived to be there.
	This, I think, may fitly be called a determinate or determined idea, when such as it is at any time objectively in the mind, and so determined there, it is annexed, and without variation determined to a name or articulate sound, which is to be steadily the sign of that very same object of the mind or determinate idea.	This, I think, may properly be called a determinate or determined idea when, such as it is at any time objectively in the mind, and so determined there, it is attached, and determined without variation, to a name or articulate sound. That name or sound is to be steadily the sign of that very same object of the mind, or determinate idea.
Ep.15	To explain this a little more particularly. By determinate, when applied to a simple idea, I mean that simple appearance which the mind has in its view, or perceives in itself, when that idea is said to be in it: by determinate, when applied to a complex idea, I mean such an one as consists of a determinate number of certain simple or less complex ideas, joined in such a proportion and situation, as the mind has before its view, and sees in itself, when that idea is present in it, or should be present in it, when a man gives a name to it: I say should be, because it is not every one, not perhaps any one, who is so careful of his language, as to use no word, till he views in his mind the precise determined idea, which he resolves to make it the sign of.	To explain this a little more specifically. By determinate, when applied to a simple idea, I mean the simple appearance that the mind has in view, or perceives in itself, when that idea is said to be in it. By determinate, when applied to a complex idea, I mean one that consists of a determinate number of certain simple or less complex ideas, joined in the proportion and arrangement that the mind has before its view and sees in itself when that idea is present in it, or should be present in it when a man gives it a name. I say should be, because not everyone, perhaps not anyone, is so careful of his language as to use no word until he views in his mind the precise determined idea that he decides to make it the sign of.
	The want of this is the cause of no small obscurity and confusion in men's thoughts and discourses.	The lack of this is the cause of no small obscurity and confusion in men's thoughts and discussions.
Ep.16	I know there are not words enough in any language to answer all the variety of ideas that enter into men's discourses and reasonings. But this hinders not, but that when any one uses any term, he may have in his mind a determined idea, which he makes it the sign of, and to which he should keep it steadily annexed, during that present discourse. Where he does not, or cannot do this, he in vain pretends to clear or distinct ideas: it is plain his are not so; and therefore there can be expected nothing but obscurity and confusion, where such terms are made use of, which have not such a precise determination.	I know that no language has enough words to match all the variety of ideas that enter into men's discussions and reasonings. But this does not prevent someone who uses any term from having in his mind a determined idea that he makes it the sign of, and to which he should keep it steadily attached for the whole of that discussion. Where he does not or cannot do this, it is useless for him to claim clear or distinct ideas: his plainly are not so. And so nothing can be expected but obscurity and confusion wherever terms are used that have no such precise determination.
Ep.17	Upon this ground I have thought determined ideas a way of speaking less liable to mistakes, than clear and distinct; and where men have got such determined ideas of all that they reason,	On this ground I have thought determined ideas a way of speaking less liable to mistakes than clear and distinct. Where men have acquired such determined ideas of everything they reason, inquire,

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	inquire, or argue about, they will find a great part of their doubts and disputes at an end. The greatest part of the questions and controversies that perplex mankind, depending on the doubtful and uncertain use of words, or (which is the same) indetermined ideas, which they are made to stand for; I have made choice of these terms to signify, 1. Some immediate object of the mind, which it perceives and has before it, distinct from the sound it uses as a sign of it. 2.	or argue about, they will find a great part of their doubts and disputes at an end. Most of the questions and controversies that perplex mankind depend on the doubtful and uncertain use of words, or (which is the same thing) on the undetermined ideas that the words are made to stand for. So I have chosen these terms to signify: 1. some immediate object of the mind, which it perceives and has before it, distinct from the sound it uses as a sign of it; 2.
	That this idea, thus determined, *i. e.* which the mind has in itself, and knows and sees there, be determined without any change to that name, and that name determined to that precise idea. If men had such determined ideas in their inquiries and discourses, they would both discern how far their own inquiries and discourses went, and avoid the greatest part of the disputes and wranglings they have with others.	that this idea, thus determined (that is, the one the mind has in itself and knows and sees there), be tied without any change to that name, and that name tied to that precise idea. If men had such determined ideas in their inquiries and discussions, they would both see how far their own inquiries and discussions went and avoid most of the disputes and wrangling they have with others.
Ep.18	Besides this, the bookseller will think it necessary I should advertise the reader, that there is an addition of two chapters wholly new; the one of the association of ideas, the other of enthusiasm. These, with some other larger additions never before printed, he has engaged to print by themselves, after the same manner, and for the same purpose as was done when this Essay had the second impression.	Besides this, the bookseller will think it necessary for me to inform the reader that two entirely new chapters have been added: one on the association of ideas, the other on enthusiasm. These, together with some other larger additions never printed before, he has undertaken to print separately, in the same way and for the same purpose as was done when this Essay had its second printing.[4]
Ep.19	In the sixth edition, there is very little added or altered; the greatest part of what is new is contained in the 21st chapter of the second book, which any one, if he thinks it worth while, may, with a very little labour, transcribe into the margin of the former edition.	In the sixth edition very little has been added or altered. Most of what is new is in the twenty-first chapter of the second book, which anyone who thinks it worthwhile can copy into the margin of the previous edition with very little labor.

INTRODUCTION

Locke sets out his purpose: to inquire into the origin, certainty and extent of human knowledge.

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1.1.1	*An inquiry into the understanding, pleasant and useful.*—Since it is the understanding that sets man above the rest of sensible beings, and gives him all the advantage and dominion which he has over them; it is certainly a subject, even from its nobleness, worth our labour to inquire into. The understanding, like the eye, whilst it makes us see	*An inquiry into the understanding, pleasant and useful.*—It is the understanding that sets man above the rest of sentient beings and gives him all the advantage and dominion he has over them. So it is certainly a subject worth the labor of inquiring into, if only because of its nobility. The understanding is like the eye: it makes us see and per-

4 By "enthusiasm" (4.19) Locke means claims to private divine inspiration or revelation, not mere eagerness; the chapter on the association of ideas is 2.33.

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and perceive all other things, takes no notice of itself; and it requires art and pains to set it at a distance, and make it its own object.

But whatever be the difficulties that lie in the way of this inquiry, whatever it be that keeps us so much in the dark to ourselves, sure I am, that all the light we can let in upon our own minds, all the acquaintance we can make with our own understandings, will not only be very pleasant, but bring us great advantage, in directing our thoughts in the search of other things.

1.1.2 *Design*.—This, therefore, being my purpose, to inquire into the original, certainty, and extent of human knowledge, together with the grounds and degrees of belief, opinion, and assent; I shall not at present meddle with the physical consideration of the mind, or trouble myself to examine wherein its essence consists, or by what motions of our spirits, or alterations of our bodies, we come to have any sensation by our organs, or any ideas in our understandings; and whether those ideas do, in their formation, any, or all of them, depend on matter or no: these are speculations, which, however curious and entertaining, I shall decline, as lying out of my way, in the design I am now upon.

It shall suffice to my present purpose, to consider the discerning faculties of a man, as they are employed about the objects which they have to do with: and I shall imagine I have not wholly misemployed myself in the thoughts I shall have on this occasion, if, in this historical, plain method, I can give any account of the ways whereby our understandings come to attain those notions of things we have, and can set down any measures of the certainty of our knowledge, or the grounds of those persuasions, which are to be found amongst men, so various, different, and wholly contradictory;

and yet asserted somewhere or other with such assurance and confidence, that he that shall take a view of the opinions of mankind, observe their opposition, and at the same time consider the fondness and devotion wherewith they are embraced, the resolution and eagerness wherewith they are maintained, may perhaps have reason to suspect, that either there is no such thing as truth at all, or that mankind hath no

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ceive all other things, but it takes no notice of itself. It takes skill and effort to set it at a distance and make it its own object.

But whatever difficulties lie in the way of this inquiry, and whatever it is that keeps us so much in the dark about ourselves, I am sure of this. All the light we can let in on our own minds, and all the acquaintance we can make with our own understandings, will not only be very pleasant but will also bring us great advantage in directing our thoughts in the search for other things.

Design.—My purpose, then, is to inquire into the origin, certainty, and extent of human knowledge, together with the grounds and degrees of belief, opinion, and assent. I shall not at present meddle with the physical consideration of the mind. Nor shall I trouble myself to examine what its essence consists in, or by what motions of our spirits or alterations of our bodies we come to have any sensation by our organs, or any ideas in our understandings, or whether those ideas, any or all of them, depend on matter in their formation. These are speculations that I shall decline, however curious and entertaining they may be, as lying outside my way in the project I am now engaged in.

It will be enough for my present purpose to consider the discerning faculties of a man as they are employed about the objects they have to deal with. And I shall think I have not entirely wasted my efforts in the thoughts I have on this occasion if, in this historical, plain method, I can give some account of the ways by which our understandings come to attain the notions of things we have, and can set down some measures of the certainty of our knowledge, or of the grounds of the persuasions found among men. Those persuasions are so various, so different, and so wholly contradictory,

and yet are asserted somewhere or other with such assurance and confidence, that anyone who surveys the opinions of mankind may perhaps have reason to suspect either that there is no such thing as truth at all, or that mankind has no adequate means of attaining certain knowledge of it. He has only to observe how these opinions oppose each other, and at the same time to consider the fondness and devotion with which they are em-

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sufficient means to attain a certain knowledge of it.

1.1.3 *Method*.—It is, therefore, worth while to search out the bounds between opinion and knowledge; and examine by what measures, in things, whereof we have no certain knowledge, we ought to regulate our assent, and moderate our persuasions. In order whereunto, I shall pursue this following method.

First, I shall inquire into the original of those ideas, notions, or whatever else you please to call them, which a man observes, and is conscious to himself he has in his mind; and the ways whereby the understanding comes to be furnished with them.

Secondly, I shall endeavour to show what knowledge the understanding hath by those ideas; and the certainty, evidence, and extent of it.

Thirdly, I shall make some inquiry into the nature and grounds of faith or opinion; whereby I mean that assent which we give to any proposition as true, of whose truth yet we have no certain knowledge: and here we shall have occasion to examine the reasons and degrees of assent.

1.1.4 *Useful to know the extent of our comprehension*.—If, by this inquiry into the nature of the understanding, I can discover the powers thereof, how far they reach, to what things they are in any degree proportionate, and where they fail us; I suppose it may be of use to prevail with the busy mind of man to be more cautious in meddling with things exceeding its comprehension; to stop when it is at the utmost extent of its tether; and to sit down in a quiet ignorance of those things, which, upon examination, are found to be beyond the reach of our capacities.

We should not then, perhaps, be so forward, out of an affectation of a universal knowledge, to raise questions, and perplex ourselves and others with disputes about things to which our understandings are not suited, and of which we cannot frame in our minds any clear or distinct perceptions, or whereof (as it has, perhaps, too often happened) we have not any notions at all. If we can find out how far the understanding can extend its views, how far it has faculties to attain

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braced and the resolution and eagerness with which they are maintained.

Method.—It is therefore worthwhile to search out the boundaries between opinion and knowledge, and to examine by what measures we ought to regulate our assent and moderate our persuasions in things of which we have no certain knowledge. To this end I shall pursue the following method.

First, I shall inquire into the origin of those ideas, notions, or whatever else you please to call them, which a man observes and is conscious to himself that he has in his mind; and into the ways by which the understanding comes to be furnished with them.

Second, I shall try to show what knowledge the understanding has by those ideas, and the certainty, evidence, and extent of that knowledge.

Third, I shall make some inquiry into the nature and grounds of faith or opinion. By this I mean the assent we give to any proposition as true when we still have no certain knowledge of its truth. And here we shall have occasion to examine the reasons and degrees of assent.

Useful to know the extent of our comprehension.—By this inquiry into the nature of the understanding I may be able to discover its powers: how far they reach, to what things they are in any degree proportioned, and where they fail us. If I can, I suppose it may be of use in persuading the busy mind of man to be more cautious in meddling with things beyond its comprehension. It may persuade the mind to stop when it is at the utmost extent of its tether, and to sit down in a quiet ignorance of those things that are found on examination to be beyond the reach of our capacities.

Then, perhaps, we would not be so quick to raise questions out of a pretension to universal knowledge. We would not perplex ourselves and others with disputes about things our understandings are not suited to, of which we cannot frame any clear or distinct perceptions in our minds, or of which (as has perhaps happened too often) we have no notions at all. If we can find out how far the understanding can extend its views, how far it has fac-

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certainty, and in what cases it can only judge and guess, we may learn to content ourselves with what is attainable by us in this state.

1.1.5 *Our capacity suited to our state and concerns*.—For, though the comprehension of our understandings comes exceeding short of the vast extent of things, yet we shall have cause enough to magnify the bountiful Author of our being, for that proportion and degree of knowledge he has bestowed on us, so far above all the rest of the inhabitants of this our mansion. Men have reason to be well satisfied with what God hath thought fit for them, since he has given them (as St.

Peter says) πάντα πρὸς ζωὴν καὶ εὐσέβειαν, whatsoever is necessary for the conveniences of life, and information of virtue; and has put within the reach of their discovery the comfortable provision for this life, and the way that leads to a better. How short soever their knowledge may come of an universal or perfect comprehension of whatsoever is, it yet secures their great concernments, that they have light enough to lead them to the knowledge of their Maker, and the sight of their own duties.

Men may find matter sufficient to busy their heads, and employ their hands with variety, delight, and satisfaction, if they will not boldly quarrel with their own constitution, and throw away the blessings their hands are filled with, because they are not big enough to grasp every thing.

We shall not have much reason to complain of the narrowness of our minds, if we will but employ them about what may be of use to us: for of that they are very capable: and it will be an unpardonable, as well as childish peevishness, if we undervalue the advantages of our knowledge, and neglect to improve it to the ends for which it was given us, because there are some things that are set out of the reach of it. It will be no excuse to an idle and untoward servant, who would not attend his business by candlelight, to plead that he had not broad sunshine.

The candle that is set up in us, shines bright enough for all our purposes. The discoveries we can make with this, ought to satisfy us: and we

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ulties to attain certainty, and in what cases it can only judge and guess, we may learn to content ourselves with what is attainable by us in this state.

Our capacity suited to our state and concerns.—For though the comprehension of our understandings falls exceedingly short of the vast extent of things, we shall still have cause enough to praise the bountiful Author of our being for the proportion and degree of knowledge he has bestowed on us, so far above all the other inhabitants of this dwelling of ours. Men have reason to be well satisfied with what God has thought fit for them. For he has given them (as St.

Peter says) πάντα πρὸς ζωὴν καὶ εὐσέβειαν, whatever is necessary for the conveniences of life and the knowledge of virtue. And he has put within reach of their discovery comfortable provision for this life and the way that leads to a better one. However far their knowledge may fall short of a universal or perfect comprehension of whatever exists, it still secures their great concerns: they have light enough to lead them to the knowledge of their Maker and the sight of their own duties.[5]

Men can find matter enough to occupy their heads and employ their hands with variety, delight, and satisfaction, if they will not boldly quarrel with their own constitution, throwing away the blessings their hands are filled with because those hands are not big enough to grasp everything.

We shall not have much reason to complain of the narrowness of our minds if we will only employ them on what may be of use to us, for of that they are very capable. Some things are placed out of the reach of our knowledge. It will be an unpardonable, as well as childish, peevishness if for that reason we undervalue the advantages of our knowledge and neglect to improve it for the ends for which it was given us. An idle and unruly servant who would not attend to his work by candlelight has no excuse in pleading that he did not have broad sunshine.

The candle that is set up in us shines bright enough for all our purposes. The discoveries we can make with it ought to satisfy us. We shall use

5 2 Peter 1:3, "all things that pertain unto life and godliness" (King James Version).

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shall then use our understanding right, when we entertain all objects in that way and proportion that they are suited to our faculties, and upon those grounds they are capable of being proposed to us; and not peremptorily or intemperately require demonstration, and demand certainty, where probability only is to be had, and which is sufficient to govern all our concernments.

If we will disbelieve every thing, because we cannot certainly know all things, we shall do much-what as wisely as he, who would not use his legs, but sit still and perish, because he had no wings to fly.

1.1.6 *Knowledge of our capacity a cure of scepticism and idleness*.—When we know our own strength, we shall the better know what to undertake with hopes of success; and when we have well surveyed the powers of our own minds, and made some estimate what we may expect from them, we shall not be inclined either to sit still, and not set our thoughts on work at all, in despair of knowing any thing; or, on the other side, question every thing, and disclaim all knowledge, because some things are not to be understood. It is of great use to the sailor to know the length of his line, though he cannot with it fathom all the depths of the ocean.

It is well he knows that it is long enough to reach the bottom, at such places as are necessary to direct his voyage, and caution him against running upon shoals that may ruin him. Our business here is not to know all things, but those which concern our conduct. If we can find out those measures whereby a rational creature, put in that state in which man is in, in this world, may and ought to govern his opinions, and actions depending thereon, we need not to be troubled that some other things escape our knowledge.

1.1.7 *Occasion of this essay*.—This was that which gave the first rise to this essay concerning the understanding. For I thought that the first step towards satisfying several inquiries the mind of man was very apt to run into, was to take a survey of our own understanding, examine our own powers, and see to what things they were adapted.

Till that was done, I suspected we began at the wrong end, and in vain sought for satisfaction in a

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our understanding rightly when we treat all objects in the way and proportion in which they are suited to our faculties, and on the grounds on which they are capable of being presented to us. We should not peremptorily or immoderately require demonstration and demand certainty where only probability is to be had, for probability is sufficient to govern all our concerns.

If we disbelieve everything because we cannot know all things for certain, we shall be acting about as wisely as someone who would not use his legs, but sat still and perished because he had no wings to fly with.

Knowledge of our capacity a cure of skepticism and idleness.—When we know our own strength, we will know better what to undertake with hope of success. Once we have carefully surveyed the powers of our own minds and estimated what we may expect from them, we will not be inclined to sit still and never set our thoughts to work, in despair of knowing anything. Nor, on the other side, will we question everything and disclaim all knowledge because some things cannot be understood. It is very useful for the sailor to know the length of his line, even though he cannot use it to sound all the depths of the ocean.

It is enough that he knows it is long enough to reach the bottom at the places where he needs it to direct his voyage and to warn him against running onto shoals that might wreck him. Our business here is not to know all things, but those that concern our conduct. Suppose we can find out the measures by which a rational creature, placed in the condition man is in in this world, may and ought to govern his opinions and the actions that depend on them. Then we need not be troubled that some other things escape our knowledge.

Occasion of this essay.—This was what first gave rise to this essay concerning the understanding. Several inquiries are very apt to occupy the human mind, and I thought that the first step toward satisfying them was to take a survey of our own understanding, examine our own powers, and see what things they were suited to.

Until that was done, I suspected, we were beginning at the wrong end. We sought in vain the satis-

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quiet and sure possession of truths that most concerned us, whilst we let loose our thoughts into the vast ocean of being; as if all that boundless extent were the natural and unbounded possession of our understandings, wherein there was nothing exempt from its decisions, or that escaped its comprehension.

Thus men, extending their inquiries beyond their capacities, and letting their thoughts wander into those depths where they can find no sure footing, it is no wonder that they raise questions, and multiply disputes, which, never coming to any clear resolution, are proper only to continue and increase their doubts, and to confirm them at last in perfect scepticism.

Whereas, were the capacities of our understandings well considered, the extent of our knowledge once discovered, and the horizon found, which sets the bounds between the enlightened and dark parts of things, between what is and what is not comprehensible by us; men would, perhaps, with less scruple acquiesce in the avowed ignorance of the one, and employ their thoughts and discourse with more advantage and satisfaction in the other.

1.1.8 *What idea stands for*.—Thus much I thought necessary to say concerning the occasion of this inquiry into human understanding. But, before I proceed on to what I have thought on this subject, I must here in the entrance beg pardon of my reader for the frequent use of the word "idea," which he will find in the following treatise. It being that term which, I think, serves best to stand for whatsoever is the object of the understanding when a man thinks; I have used it to express whatever is meant by phantasm, notion, species, or whatever it is which the mind can be employed about in thinking; and I could not avoid frequently using it.

I presume it will be easily granted me, that there are such ideas in men's minds; every one is conscious of them in himself, and men's words and actions will satisfy him that they are in others.

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faction of a quiet and secure possession of the truths that most concerned us, while we let our thoughts loose into the vast ocean of being. We acted as if all that boundless extent were the natural and unlimited possession of our understandings, where nothing was exempt from its decisions or escaped its comprehension.

So when men extend their inquiries beyond their capacities and let their thoughts wander into depths where they can find no sure footing, it is no wonder that they raise questions and multiply disputes. Since these never come to any clear resolution, they serve only to prolong and increase their doubts, and in the end to confirm them in complete skepticism.

Suppose instead that the capacities of our understandings were well considered and the extent of our knowledge once discovered. Suppose the horizon were found that sets the boundary between the lit and the dark parts of things, between what we can and cannot comprehend. Then men might perhaps be less reluctant to accept an acknowledged ignorance of the one, and might employ their thoughts and discussion with more profit and satisfaction on the other.

What idea stands for.—This much I thought it necessary to say about the occasion of this inquiry into human understanding. But before I go on to what I have thought on this subject, I must here at the outset beg my reader's pardon for the frequent use of the word "idea," which he will find in the following treatise. I think it is the term that serves best to stand for whatever is the object of the understanding when a man thinks. So I have used it to express whatever is meant by phantasm, notion, species, or whatever else the mind can be occupied with in thinking, and I could not avoid using it frequently.[6]

I presume it will be readily granted me that there are such ideas in men's minds. Everyone is conscious of them in himself, and men's words and actions will satisfy him that they are in others.

6 "Phantasm" and "species" are scholastic terms for the images or forms through which, on the Aristotelian account, the mind perceives and thinks of things.

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Our first inquiry then shall be, how they come into the mind.	Our first inquiry, then, will be how they come into the mind.

NO INNATE SPECULATIVE PRINCIPLES

Locke attacks the claim that principles like "whatever is, is" are stamped on the mind at birth.

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1.2.1 *The way shown how we come by any knowledge, sufficient to prove it not innate.*—It is an established opinion among some men, that there are in the understanding certain innate principles; some primary notions; Κοιναὶ ἔννοιαι, characters as it were, stamped upon the mind of man, which the soul receives in its very first being, and brings into the world with it.	*The way shown how we come by any knowledge, sufficient to prove it not innate.*—Some men hold it as an established opinion that there are certain innate principles in the understanding. On this view there are some primary notions, κοιναὶ ἔννοιαι, characters as it were, stamped on the human mind. The soul receives them at the very beginning of its existence and brings them into the world with it.[7]
It would be sufficient to convince unprejudiced readers of the falseness of this supposition, if I should only show (as I hope I shall in the following parts of this discourse) how men, barely by the use of their natural faculties, may attain to all the knowledge they have, without the help of any innate impressions; and may arrive at certainty, without any such original notions or principles.	It would be enough to convince unprejudiced readers that this supposition is false if I only showed (as I hope I will in the following parts of this discourse) how men can attain all the knowledge they have simply by using their natural faculties, without the help of any innate impressions. They can also arrive at certainty without any such original notions or principles.
For I imagine any one will easily grant, that it would be impertinent to suppose the ideas of colour innate in a creature, to whom God hath given sight and a power to receive them by the eyes, from external objects: and no less unreasonable would it be to attribute several truths to the impressions of nature, and innate characters, when we may observe in ourselves faculties fit to attain as easy and certain knowledge of them, as if they were originally imprinted on the mind.	For I imagine anyone will readily grant that it would be absurd to suppose the ideas of color innate in a creature to whom God has given sight, and a power to receive them through the eyes from external objects. It would be no less unreasonable to attribute various truths to the impressions of nature and to innate characters. For we can observe in ourselves faculties fit to attain as easy and certain a knowledge of those truths as if they had been originally imprinted on the mind.
But because a man is not permitted, without censure, to follow his own thoughts in the search of truth, when they lead him ever so little out of the common road, I shall set down the reasons that made me doubt of the truth of that opinion, as an excuse for my mistake, if I be in one; which I leave to be considered by those, who, with me, dispose themselves to embrace truth, wherever they find it.	But a man is not allowed to follow his own thoughts in the search for truth without incurring censure, if they lead him even a little off the common road. So I will set down the reasons that made me doubt the truth of that opinion, as an excuse for my mistake if I am mistaken. I leave them to be considered by those who, like me, are disposed to embrace truth wherever they find it.
1.2.2 *General assent, the great argument.*—There is nothing more commonly taken for granted, than	

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that there are certain principles, both speculative and practical (for they speak of both) universally agreed upon by all mankind; which, therefore, they argue, must needs be constant impressions which the souls of men receive in their first beings, and which they bring into the world with them, as necessarily and really as they do any of their inherent faculties.

1.2.3 *Universal consent proves nothing innate.*—This argument, drawn from universal consent, has this misfortune in it, that if it were true, in matter of fact, that there were certain truths wherein all mankind agreed, it would not prove them innate, if there can be any other way shown how men may come to that universal agreement in the things they do consent in; which I presume may be done.

1.2.4 *"What is, is," and "it is impossible for the same thing to be, and not to be," not universally assented to.*—But, which is worse, this argument of universal consent, which is made use of to prove innate principles, seems to me a demonstration that there are none such; because there are none to which all mankind give a universal assent. I shall begin with the speculative, and instance in those magnified principles of demonstration, "whatsoever is, is;" and, "it is impossible for the same thing to be, and not to be;" which, of all others, I think have the most allowed title to innate.

These have so settled a reputation of maxims universally received, that it will no doubt be thought strange, if any one should seem to question it. But yet I take liberty to say, that these propositions are so far from having a universal assent, that there are a great part of mankind to whom they are not so much as known.

1.2.5 *Not on the mind naturally imprinted, because not known to children, [the intellectually disabled], &c.*—For, first, it is evident, that all children and *[the intellectually disabled]* have not the least apprehension or thought of them; and the want of that is enough to destroy that universal assent, which must needs be the necessary concomitant of all innate truths; it seeming to me near a contradiction to say, that there are truths

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General assent, the great argument.—Nothing is more commonly taken for granted than that there are certain principles, both speculative and practical (for they speak of both), universally agreed on by all mankind. From this they argue that these principles must be constant impressions that human souls receive at the beginning of their existence. Souls bring them into the world as necessarily and really as they bring any of their inherent faculties.

Universal consent proves nothing innate.—This argument from universal consent has an unfortunate flaw. Suppose it were true, as a matter of fact, that there were certain truths on which all mankind agreed. That still would not prove them innate, if some other way can be shown by which men might come to universal agreement in the things they do agree on. And I presume this can be done.

"What is, is," and "it is impossible for the same thing to be and not to be," not universally assented to.—But what is worse, this argument from universal consent, which is used to prove innate principles, seems to me a demonstration that there are none. For there are no principles to which all mankind give universal assent. I will begin with the speculative principles, taking as my example those celebrated principles of demonstration, "whatever is, is," and "it is impossible for the same thing to be and not to be." Of all principles, I think these have the most widely granted claim to be innate.

Their reputation as universally received maxims is so settled that it will no doubt be thought strange if anyone seems to question it. Yet I take the liberty of saying that these propositions are so far from having universal assent that a great part of mankind does not even know them.

Not naturally imprinted on the mind, because not known to children, the intellectually disabled, etc.—For, first, it is evident that children and the intellectually disabled have not the slightest apprehension or thought of them. That lack is enough to destroy the universal assent that must necessarily accompany all innate truths. It seems to me almost a contradiction to say that truths are imprin-

7 Greek, "common notions": the Stoic term for conceptions supposedly shared by all human beings.

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imprinted on the soul, which it perceives or understands not; imprinting, if it signify any thing, being nothing else but, the making certain truths to be perceived. For, to imprint any thing on the mind, without the mind's perceiving it, seems to me hardly intelligible.

If, therefore, children and *[the intellectually disabled]* have souls, have minds, with those impressions upon them, they must unavoidably perceive them, and necessarily know and assent to these truths; which, since they do not, it is evident that there are no such impressions: for if they are not notions naturally imprinted, how can they be innate? and if they are notions imprinted, how can they be unknown? To say a notion is imprinted on the mind, and yet at the same time to say that the mind is ignorant of it, and never yet took notice of it, is to make this impression nothing.

No proposition can be said to be in the mind, which it never yet knew, which it was never yet conscious of: for if any one may, then, by the same reason, all propositions that are true, and the mind is capable of ever assenting to, may be said to be in the mind, and to be imprinted: since, if any one can be said to be in the mind, which it never yet knew, it must be only because it is capable of knowing it; and so the mind is of all truths it ever shall know.

Nay, thus truths may be imprinted on the mind which it never did, nor ever shall know; for a man may live long, and die at last in ignorance of many truths, which his mind was capable of knowing, and that with certainty. So that, if the capacity of knowing be the natural impression contended for, all the truths a man ever comes to know, will, by this account, be every one of them innate; and this great point will amount to no more, but only to a very improper way of speaking: which, whilst it pretends to assert the contrary, says nothing different from those who deny innate principles; for nobody, I think, ever denied that the mind was capable of knowing several truths.

The capacity, they say, is innate; the knowledge, acquired. But then, to what end such contest for certain innate maxims? If truths can be imprinted on the understanding without being perceived, I can see no difference there can be between any truths the mind is capable of knowing, in respect

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ted on the soul which it does not perceive or understand. If imprinting means anything, it means nothing but causing certain truths to be perceived. To imprint anything on the mind without the mind's perceiving it seems to me hardly intelligible.

Suppose, then, that children and the intellectually disabled have souls, have minds, with those impressions on them. They must then unavoidably perceive them, and necessarily know and assent to these truths. Since they do not, it is evident that there are no such impressions. For if they are not notions naturally imprinted, how can they be innate? And if they are notions imprinted, how can they be unknown? To say that a notion is imprinted on the mind, and at the same time that the mind is ignorant of it and has never yet noticed it, is to reduce this impression to nothing.

No proposition can be said to be in the mind if the mind never yet knew it and was never yet conscious of it. If any one can, then by the same reasoning all true propositions the mind is ever capable of assenting to can be said to be in the mind and imprinted on it. For if any proposition the mind never yet knew can be said to be in it, that can only be because the mind is capable of knowing it. And the mind is capable of knowing all the truths it ever will know.

Indeed, on this view truths may be imprinted on the mind that it never did and never will know. A man may live a long time and die at last ignorant of many truths that his mind was capable of knowing, and knowing with certainty. So suppose the capacity of knowing is the natural impression being contended for. Then by this account every truth a man ever comes to know will be innate, and this great point will amount to nothing more than a very improper way of speaking. It claims to assert the contrary, yet says nothing different from those who deny innate principles. Nobody, I think, ever denied that the mind was capable of knowing various truths.

The capacity, they say, is innate; the knowledge is acquired. But then what is the point of such a contest over certain innate maxims? If truths can be imprinted on the understanding without being perceived, I cannot see how any of the truths the

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of their original: they must all be innate, or all adventitious: in vain shall a man go about to distinguish them.

He, therefore, that talks of innate notions in the understanding, cannot (if he intend thereby any distinct sort of truths) mean such truths to be in the understanding, as it never perceived, and is yet wholly ignorant of: for if these words (to be in the understanding) have any propriety, they signify to be understood: so that, to be in the understanding, and not to be understood—to be in the mind, and never to be perceived—is all one as to say, any thing is, and is not, in the mind or understanding.

If therefore these two propositions, "whatsoever is, is," and, "it is impossible for the same thing to be, and not to be," are by nature imprinted, children cannot be ignorant of them; infants, and all that have souls, must necessarily have them in their understandings, know the truth of them, and assent to it.

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mind is capable of knowing can differ in origin. They must all be innate, or all come from outside; it is useless for anyone to try to distinguish them.

If anyone who talks of innate notions in the understanding means some distinct sort of truths by them, he cannot mean truths in the understanding that it has never perceived and is still wholly ignorant of. For if these words, "to be in the understanding," have any proper meaning, they mean "to be understood." So to be in the understanding and not be understood, to be in the mind and never be perceived, is just the same as saying that something is and is not in the mind or understanding.

Suppose, then, that these two propositions, "whatever is, is" and "it is impossible for the same thing to be and not to be," are imprinted by nature. Then children cannot be ignorant of them. Infants, and everyone who has a soul, must necessarily have them in their understandings, know that they are true, and assent to them.

COMING TO THE USE OF REASON

Locke rejects the reply that people know the maxims once they come to the use of reason.

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1.2.6 *That men know them when they come to the use of reason answered.*—To avoid this, it is usually answered, that all men know and assent to them, when they come to the use of reason, and this is enough to prove them innate. I answer,

1.2.7 Doubtful expressions, that have scarce any signification, go for clear reasons to those who, being prepossessed, take not the pains to examine even what they themselves say. For to apply this answer with any tolerable sense to our present purpose, it must signify one of these two things: either, that as soon as men come to the use of reason, these supposed native inscriptions come to be known and observed by them; or else, that the use and exercise of men's reason assists them in the discovery of these principles, and certainly makes them known to them.

1.2.8 *If reason discovered them, that would not prove them innate.*—If they mean, that by the use of reason men may discover these principles, and that this is sufficient to prove them innate, their way of arguing will stand thus, viz.

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That men know them when they come to the use of reason, answered.—To escape this, the usual reply is that all men know and assent to them when they come to the use of reason, and that this is enough to prove them innate. I answer:

Doubtful expressions with hardly any meaning pass for clear reasons with prejudiced people, who do not take the trouble to examine even what they themselves say. If this answer is to be applied with any tolerable sense to our present purpose, it must mean one of two things. Either as soon as men come to the use of reason, these supposed native inscriptions come to be known and noticed by them. Or the use and exercise of men's reason helps them discover these principles and certainly makes them known to them.

If reason discovered them, that would not prove them innate.—Suppose they mean that men can discover these principles by the use of reason, and that this is enough to prove them innate. Then their argument will run as follows, namely,

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that whatever truths reason can certainly discover to us, and make us firmly assent to, those are all naturally imprinted on the mind; since that universal assent, which is made the mark of them, amounts to no more but this; that by the use of reason we are capable to come to a certain knowledge of, and assent to them; and by this means, there will be no difference between the maxims of the mathematicians, and theorems they deduce from them: all must be equally allowed innate; they being all discoveries made by the use of reason, and truths that a rational creature may certainly come to know, if he apply his thoughts rightly that way.

1.2.9 *It is false that reason discovers them.*—But how can these men think the use of reason necessary to discover principles that are supposed innate, when reason (if we may believe them) is nothing else but the faculty of deducing unknown truths from principles, or propositions, that are already known? That certainly can never be thought innate, which we have need of reason to discover; unless, as I have said, we will have all the certain truths that reason ever teaches us to be innate.

We may as well think the use of reason necessary to make our eyes discover visible objects, as that there should be need of reason, or the exercise thereof, to make the understanding see what is originally engraven on it, and cannot be in the understanding, before it be perceived by it.

So that to make reason discover those truths thus imprinted, is to say, that the use of reason discovers to a man what he knew before; and if men have those innate impressed truths originally, and before the use of reason, and yet are always ignorant of them, till they come to the use of reason, it is in effect to say, that men know, and know them not, at the same time.

1.2.10 It will here perhaps be said, that mathematical demonstrations, and other truths that are not innate, are not assented to as soon as proposed, wherein they are distinguished from these maxims, and other innate truths. I shall have occasion to speak of assent upon the first proposing, more particularly by and bye. I shall here only, and that very readily, allow, that these maxims and mathematical demonstrations are in

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that whatever truths reason can certainly discover to us and make us firmly assent to are all naturally imprinted on the mind. For the universal assent that is made their mark amounts to no more than this: by the use of reason we are capable of coming to a certain knowledge of them and of assenting to them. On these terms there will be no difference between the maxims of the mathematicians and the theorems they deduce from them. All must equally be granted to be innate. They are all discoveries made by the use of reason, and truths that a rational creature can certainly come to know if he applies his thoughts rightly in that direction.

It is false that reason discovers them.—But how can these men think the use of reason is needed to discover principles supposed to be innate? For reason, if we may believe them, is nothing but the faculty of deducing unknown truths from principles or propositions already known. Something we need reason to discover can surely never be thought innate, unless, as I have said, we will count as innate all the certain truths that reason ever teaches us.

We might as well think the use of reason is needed to make our eyes discover visible objects. It is equally absurd to think reason, or its exercise, is needed to make the understanding see what is originally engraved on it. For nothing can be in the understanding before the understanding perceives it.

So to have reason discover truths imprinted in this way is to say that the use of reason discovers to a man what he knew before. Suppose men have those innate, impressed truths originally, before the use of reason, and yet are always ignorant of them until they come to the use of reason. That is in effect to say that men know them and do not know them at the same time.

It may be said here that mathematical demonstrations and other truths that are not innate are not assented to as soon as they are proposed. That, it will be said, is what distinguishes them from these maxims and other innate truths. I will have occasion shortly to speak more particularly of assent on first proposal. Here I will only grant, and very readily, that these maxims and mathematical demonstrations differ in this. The demonstrations

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this different; that the one has need of reason, using of proofs, to make them out, and to gain our assent; but the other, as soon as understood, are, without any the least reasoning, embraced and assented to.

But I withal beg leave to observe, that it lays open the weakness of this subterfuge, which requires the use of reason for the discovery of these general truths; since it must be confessed that in their discovery there is no use made of reasoning at all. And I think those who give this answer will not be forward to affirm, that the knowledge of this maxim, "that it is impossible for the same thing to be, and not to be," is a deduction of our reason; for this would be to destroy that bounty of nature they seem so fond of, whilst they make the knowledge of those principles to depend on the labour of our thoughts.

For all reasoning is search, and casting about, and requires pains and application; and how can it, with any tolerable sense, be supposed, that what was imprinted by nature, as the foundation and guide of our reason, should need the use of reason to discover it?

1.2.11 Those who will take the pains to reflect with a little attention on the operations of the understanding, will find, that this ready assent of the mind to some truths, depends not either on native inscription, or on the use of reason; but on a faculty of the mind quite distinct from both of them, as we shall see hereafter. Reason, therefore, having nothing to do in procuring our assent to these maxims, if by saying that men know and assent to them when they come to the use of reason, be meant, that the use of reason assists us in the knowledge of these maxims, it is utterly false; and were it true, would prove them not to be innate.

1.2.12 *The coming to the use of reason, not the time we come to know these maxims.*—If by knowing and assenting to them, when we come to the use of reason, be meant, that this is the time when they come to be taken notice of by the mind; and that, as soon as children come to the use of reason, they come also to know and assent to these maxims; this also is false and frivolous. First, it is false: because it is evident these maxims are not in the mind so early as the use of reason, and

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need reason, making use of proofs, to establish them and win our assent. The maxims are embraced and assented to without the least reasoning, as soon as they are understood.

But I also ask leave to point out that this exposes the weakness of the evasion that requires the use of reason to discover these general truths. For it must be admitted that no use at all is made of reasoning in discovering them. And I think those who give this answer will not be quick to affirm that the knowledge of this maxim, "that it is impossible for the same thing to be and not to be," is a deduction of our reason. That would make the knowledge of those principles depend on the labor of our thoughts, and so would destroy the bounty of nature they seem so fond of.

For all reasoning is searching and casting about, and requires effort and application. Nature supposedly imprinted these principles as the foundation and guide of our reason. How can it be supposed, with any tolerable sense, that we need to use reason to discover them?

Those who will take the trouble to reflect with a little attention on the operations of the understanding will find something about this ready assent of the mind to some truths. It depends neither on native inscription nor on the use of reason, but on a faculty of the mind quite distinct from both, as we will see later. Reason, then, has nothing to do with obtaining our assent to these maxims. So suppose that saying men know and assent to them when they come to the use of reason means that the use of reason helps us know these maxims. That is utterly false; and if it were true, it would prove them not to be innate.

Coming to the use of reason not the time we come to know these maxims.—Suppose that knowing and assenting to them when we come to the use of reason means something else. It may mean that this is the time when the mind comes to notice them, so that children come to know and assent to these maxims as soon as they come to the use of reason. This too is false and frivolous. First, it is false. It is evident that these maxims are not in the mind as early as the use of reason, and therefore coming to

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therefore the coming to the use of reason is falsely assigned as the time of their discovery.

How many instances of the use of reason may we observe in children, a long time before they have any knowledge of this maxim, "that it is impossible for the same thing to be, and not to be?" And a great part of illiterate people, and *[people from preliterate societies]*, pass many years, even of their rational age, without ever thinking on this and the like general propositions.

I grant, men come not to the knowledge of these general and more abstract truths, which are thought innate, till they come to the use of reason; and I add, nor then neither: which is so because, till after they come to the use of reason, those general abstract ideas are not framed in the mind, about which those general maxims are, which are mistaken for innate principles: but are indeed discoveries made, and verities introduced and brought into the mind, by the same way, and discovered by the same steps, as several other propositions, which nobody was ever so extravagant as to suppose innate. This I hope to make plain in the sequel of this discourse.

I allow therefore a necessity that men should come to the use of reason before they get the knowledge of those general truths, but deny that men's coming to the use of reason is the time of their discovery.

1.2.13 *By this they are not distinguished from other knowable truths.*—In the mean time it is observable, that this saying, That men know and assent to these maxims when they come to the use of reason, amounts, in reality of fact, to no more but this, That they are never known nor taken notice of, before the use of reason, but may possibly be assented to, some time after, during a man's life, but when, is uncertain; and so may all other knowable truths, as well as these; which therefore have no advantage nor distinction from others, by this note of being known when we come to the use of reason, nor are thereby proved to be innate, but quite contrary.

1.2.14 *If coming to the use of reason were the time of their discovery, it would not prove them innate.*—But, secondly, were it true that the precise time of their being known and assented to were when men come to the use of reason, neither would that

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the use of reason is falsely named as the time of their discovery.

How many instances of the use of reason can we observe in children long before they have any knowledge of this maxim, “that it is impossible for the same thing to be and not to be”? And a great many unlettered people, and people from preliterate societies, pass many years, even of their age of reason, without ever thinking about this and similar general propositions.

I grant that men do not come to know these general and more abstract truths, which are thought innate, until they come to the use of reason. I add that they do not know them even then. The reason is that the general abstract ideas these general maxims are about are not framed in the mind until after men come to the use of reason. The maxims are mistaken for innate principles, but they are really discoveries made and truths brought into the mind. They come in the same way, and are discovered by the same steps, as various other propositions that nobody was ever so extravagant as to suppose innate. This I hope to make plain in the rest of this discourse.

I therefore grant that men must come to the use of reason before they get the knowledge of those general truths. But I deny that men’s coming to the use of reason is the time of their discovery.

By this they are not distinguished from other knowable truths.—Meanwhile it is worth noting what this saying amounts to, that men know and assent to these maxims when they come to the use of reason. In actual fact it means no more than this: they are never known or noticed before the use of reason, but may possibly be assented to at some later point during a man’s life. When that will be is uncertain. The same is true of all other knowable truths as well as these. So these maxims gain no advantage over others, and no distinction from them, by this mark of being known when we come to the use of reason. Nor are they thereby proved to be innate; quite the contrary.

If coming to the use of reason were the time of their discovery, it would not prove them innate.—But, secondly, suppose it were true that men first know and assent to them precisely when they come to the use of reason. That would not prove them in-

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prove them innate. This way of arguing is as frivolous as the supposition of itself is false. For by what kind of logic will it appear, that any notion is originally by nature imprinted in the mind in its first constitution, because it comes first to be observed and assented to, when a faculty of the mind, which has quite a distinct province, begins to exert itself?

And therefore, the coming to the use of speech, if it were supposed the time that these maxims are first assented to, (which it may be with as much truth as the time when men come to the use of reason) would be as good a proof that they were innate, as to say, they are innate, because men assent to them when they come to the use of reason. I agree then with these men of innate principles, that there is no knowledge of these general and self-evident maxims in the mind, till

it comes to the exercise of reason; but I deny that the coming to the use of reason is the precise time when they are first taken notice of; and if that were the precise time, I deny that it would prove them innate.

All that can, with any truth, be meant by this proposition, that men assent to them when they come to the use of reason, is no more but this; that the making of general abstract ideas, and the understanding of general names, being a concomitant of the rational faculty, and growing up with it, children commonly get not those general ideas, nor learn the names that stand for them, till, having for a good while exercised their reason about familiar and more particular ideas, they are, by their ordinary discourse and actions with others, acknowledged to be capable of rational conversation.

If assenting to these maxims, when men come to the use of reason, can be true in any other sense, I desire it may be shown; or at least, how in this, or any other sense, it proves them innate.

1.2.15 *The steps by which the mind attains several truths.*— The senses at first let in particular ideas, and furnish the yet empty cabinet; and the mind by degrees growing familiar with some of them, they are lodged in the memory, and names got to them: afterward the mind, proceeding farther, abstracts them, and by degrees learns the use of general names. In this manner, the mind comes to be

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nate either. This way of arguing is as frivolous as the supposition itself is false. A faculty of the mind with quite a separate province begins to exert itself, and at that moment a notion first comes to be noticed and assented to. By what kind of logic does it follow that nature originally imprinted this notion on the mind in its first constitution?

Suppose, then, that coming to the use of speech were taken to be the time when these maxims are first assented to. That may be said with as much truth as the time when men come to the use of reason. It would be as good a proof that they were innate as saying they are innate because men assent to them when they come to the use of reason. I agree, then, with these men of innate principles that there is no knowledge of these general and self-evident maxims in the mind until

it comes to the exercise of reason. But I deny that coming to the use of reason is the precise time when they are first noticed. And if that were the precise time, I deny that it would prove them innate.

Only one thing can truly be meant by this proposition, that men assent to them when they come to the use of reason. The making of general abstract ideas and the understanding of general names accompany the rational faculty and grow up along with it. So children commonly do not get those general ideas, or learn the names that stand for them, until they have exercised their reason for a good while on familiar and more particular ideas. By then their ordinary talk and dealings with others show them to be capable of rational conversation.

If assenting to these maxims when men come to the use of reason can be true in any other sense, I would like it to be shown. Or at least I would like it shown how, in this or any other sense, it proves them innate.

The steps by which the mind attains several truths.— The senses at first let in particular ideas and furnish the still empty cabinet. As the mind gradually grows familiar with some of them, they are lodged in the memory and given names. Later the mind goes further, abstracts them, and by degrees learns the use of general names. In this way the mind comes to be furnished with ideas and lan-

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furnished with ideas and language, the materials about which to exercise its discursive faculty; and the use of reason becomes daily more visible, as these materials that give it employment increase. But though the having of general ideas, and the use

of general words and reason, usually grow together, yet, I see not how this any way proves them innate. The knowledge of some truths, I confess, is very early in the mind, but in a way that shows them not to be innate. For, if we will observe, we shall find it still to be about ideas, not innate, but acquired; it being about those first which are imprinted by external things, with which infants have earliest to do, which make the most frequent impressions on their senses. In ideas thus got, the mind discovers that some agree and others differ, probably as soon as it has any use of memory; as soon as it is able to retain and perceive distinct ideas.

But whether it be then, or no, this is certain; it does so long before it has the use of words, or comes to that, which we commonly call "the use of reason." For a child knows as certainly, before it can speak, the difference between the ideas of sweet and bitter (*i. e.* that sweet is not bitter) as it knows afterward (when it comes to speak) that wormwood and sugar plums are not the same thing.

1.2.16 —A child knows not that three and four are equal to seven, till he comes to be able to count seven, and has got the name and idea of equality; and then, upon explaining those words, he presently assents to, or rather perceives the truth of, that proposition.

But neither does he then readily assent, because it is an innate truth, nor was his assent wanting till then, because he wanted the use of reason; but the truth of it appears to him, as soon as he has settled in his mind the clear and distinct ideas that these names stand for; and then he knows the truth of that proposition, upon the same grounds, and by the same means, that he knew before that a rod and a cherry are not the same thing; and upon the same grounds also, that he may come to know afterward, "that it is impossible for the same thing to be, and not to be," as shall be more fully shown hereafter.

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guage, the materials for exercising its discursive faculty. The use of reason becomes more visible every day as the materials that give it employment increase. But although having general ideas and the use

of general words and reason usually grow up together, I do not see how this in any way proves them innate. I admit that the mind knows some truths very early, but in a way that shows they are not innate. If we observe, we will find that this knowledge is always about ideas that are not innate but acquired. It first concerns the ideas imprinted by external things, which infants deal with earliest and which make the most frequent impressions on their senses. Among ideas acquired this way, the mind discovers that some agree and others differ. It probably does so as soon as it has any use of memory, as soon as it can retain and perceive distinct ideas.

But whether it is then or not, this much is certain: it does so long before it has the use of words, or comes to what we commonly call “the use of reason.” Before a child can speak, it knows the difference between the ideas of sweet and bitter (that is, that sweet is not bitter). It knows this as certainly as it knows later, when it can speak, that wormwood and sugarplums are not the same thing.

—A child does not know that three and four are equal to seven until he is able to count to seven and has got the name and idea of equality. Then, once those words are explained, he immediately assents to, or rather perceives the truth of, that proposition.

But he does not then readily assent because it is an innate truth. Nor did he fail to assent until then because he lacked the use of reason. Rather, its truth appears to him as soon as he has settled in his mind the clear and distinct ideas these names stand for. He then knows the truth of that proposition on the same grounds and by the same means by which he knew earlier that a rod and a cherry are not the same thing. On the same grounds, too, he may come to know later “that it is impossible for the same thing to be and not to be,” as will be shown more fully later.

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So that the later it is before any one comes to have those general ideas, about which those maxims are; or to know the signification of those general terms that stand for them; or to put together in his mind the ideas they stand for; the later also will it be before he comes to assent to those maxims, whose terms, with the ideas they stand for, being no more innate than those of a cat or a weasel, he must stay till time and observation have acquainted him with them; and then he will be in a capacity to know the truth of these maxims, upon the first occasion that shall make him put together those ideas in his mind, and observe whether they agree or disagree, according as is expressed in those propositions.

And therefore it is, that a man knows that eighteen and nineteen are equal to thirty-seven, by the same self-evidence that he knows one and two to be equal to three; yet a child knows this not so soon as the other, not for want of the use of reason, but because the ideas the words eighteen, nineteen, and thirty-seven stand for, are not so soon got, as those which are signified by one, two, and three.

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Take the general ideas those maxims are about, the meaning of the general terms that stand for them, and the joining in his mind of the ideas they stand for. The later anyone comes to any of these, the later he will assent to those maxims. Their terms, and the ideas the terms stand for, are no more innate than those of a cat or a weasel. So he must wait until time and observation have acquainted him with them. Then some occasion will first make him put those ideas together in his mind and observe whether they agree or disagree, as those propositions express. On that occasion he will be in a position to know the truth of these maxims.

And that is why a man knows that eighteen and nineteen are equal to thirty-seven by the same self-evidence by which he knows that one and two are equal to three. Yet a child does not know the first as soon as the second. This is not for lack of the use of reason. It is because the ideas the words "eighteen," "nineteen," and "thirty-seven" stand for are acquired later than those signified by "one," "two," and "three."

ASSENT ON FIRST HEARING

Ready assent once the terms are understood marks self-evidence, not innateness.

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1.2.17 *Assenting as soon as proposed and understood, proves them not innate.*—This evasion therefore of general assent, when men come to the use of reason, failing as it does, and leaving no difference between those supposed innate, and other truths that are afterward acquired and learnt, men have endeavoured to secure a universal assent to those they call maxims, by saying, they are generally assented to as soon as proposed, and the terms they are proposed in, understood: seeing all men, even children, as soon as they hear and understand the terms, assent to these propositions, they think it is sufficient to prove them innate.

For since men never fail, after they have once understood the words, to acknowledge them for undoubted truths they would infer, that certainly these propositions were first lodged in the understanding, which, without any teaching, the mind, at the very first proposal, immediately

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Assenting as soon as proposed and understood proves them not innate.—This evasion of general assent when men come to the use of reason fails, then. It leaves no difference between the supposedly innate truths and other truths acquired and learned later. So men have tried another way to secure universal assent for what they call maxims. They say the maxims are generally assented to as soon as they are proposed and the terms they are proposed in are understood. All men, even children, assent to these propositions as soon as they hear and understand the terms, and they think this is enough to prove them innate.

Men never fail to acknowledge these propositions as undoubted truths once they have understood the words. From this they would infer that the propositions were certainly lodged in the understanding from the first. Without any teaching, the mind immediately takes hold of them and assents

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closes with, and assents to, and after that never doubts again.

1.2.18 *If such an assent be a mark of innate, then "that one and two are equal to three; that sweetness is not bitterness," and a thousand the like, must be innate.*— In answer to this, I demand "whether ready assent given to a proposition upon first hearing, and understanding the terms, be a certain mark of an innate principle?" If it be not, such a general assent is in vain urged as a proof of them: if it be said, that it is a mark of innate, they must then allow all such propositions to be innate which are generally assented to as soon as heard, whereby they will find themselves plentifully stored with innate principles. For upon the same ground, viz.

of assent at first hearing and understanding the terms, that men would have those maxims pass for innate, they must also admit several propositions about numbers to be innate; and thus, that one and two are equal to three; that two and two are equal to four; and a multitude of other the like propositions in numbers, that every body assents to at first hearing and understanding the terms, must have a place among these innate axioms. Nor is this the prerogative of numbers alone, and propositions made about several of them; but even natural philosophy and all the other sciences, afford propositions which are sure to meet with assent as soon as they are understood.

That two bodies cannot be in the same place, is a truth that nobody any more sticks at, than at these maxims: "that it is impossible for the same things to be, and not to be; that white is not black; that a square is not a circle; that yellowness is not sweetness;" these, and a million of other such propositions (as many at least as we have distinct ideas of), every man in his wits, at first hearing, and knowing what the names stand for, must necessarily assent to.

If these men will be true to their own rule, and have assent at first hearing and understanding the terms to be a mark of innate, they must allow, not only as many innate propositions, as men have distinct ideas, but as many as men can make propositions, wherein different ideas are denied one of another.

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to them at their very first proposal, and it never doubts them again afterward.

If such an assent is a mark of the innate, then "that one and two are equal to three," "that sweetness is not bitterness," and a thousand like them must be innate.— In answer to this, I ask "whether ready assent given to a proposition on first hearing it and understanding its terms is a certain mark of an innate principle." If it is not, such general assent is urged in vain as a proof of them. If they say it is a mark of the innate, they must then grant that all propositions generally assented to as soon as they are heard are innate. They will then find themselves plentifully stocked with innate principles. For consider the ground on which men would have those maxims pass for innate, namely,

assent on first hearing and understanding the terms. On that same ground they must also admit various propositions about numbers to be innate. Everybody assents on first hearing and understanding the terms that one and two are equal to three, that two and two are equal to four, and to a multitude of other similar propositions about numbers. All of these must have a place among these innate axioms. Nor is this the privilege of numbers alone, and of propositions made about various numbers. Even natural philosophy and all the other sciences supply propositions that are sure to meet with assent as soon as they are understood.

Nobody balks at the truth that two bodies cannot be in the same place any more than at these maxims: "that it is impossible for the same thing to be and not to be," "that white is not black," "that a square is not a circle," "that yellowness is not sweetness." There are a million other such propositions, at least as many as we have distinct ideas of. Every man in his right mind must necessarily assent to them on first hearing them, if he knows what the names stand for.

These men may be true to their own rule and make assent on first hearing and understanding the terms a mark of the innate. If so, they must grant as many innate propositions as men have distinct ideas. Indeed, they must grant as many as there are propositions men can make in which different ideas are denied of one another.

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Since every proposition, wherein one different idea is denied of another, will as certainly find assent at first hearing and understanding the terms, as this general one, "it is impossible for the same thing to be, and not to be;" or that which is the foundation of it, and is the easier understood of the two, "the same is not different:" by which account they will have legions of innate propositions of this one sort, without mentioning any other. But since no proposition can be innate, unless the ideas, about which it is, be innate; this will be, to suppose all our ideas of colours, sounds, taste, figure, &c. innate, than which there cannot be any thing more opposite to reason and experience.

Universal and ready assent, upon hearing and understanding the terms, is (I grant) a mark of self-evidence; but self-evidence, depending not on innate impressions, but on something else (as we shall show hereafter), belongs to several propositions, which nobody was yet so extravagant as to pretend to be innate.

1.2.19 *Such less general propositions known before these universal maxims.*—Nor let it be said, that those more particular self-evident propositions, which are assented to at first hearing, as, that one and two are equal to three; that green is not red, &c.; are received as the consequence of those more universal propositions, which are looked on as innate principles; since any one, who will but take the pains to observe what passes in the understanding, will certainly find, that these, and the like less general propositions, are certainly known, and firmly assented to, by those who are utterly ignorant of those more general maxims; and so, being earlier in the mind than those (as they are called) first principles, cannot owe to them the assent wherewith they are received at first hearing.

1.2.20 *One and one equal to two, &c. not general nor useful, answered.*—If it be said, that "these propositions, viz. two and two are equal to four; red is not blue, &c. are not general maxims, nor of any great use;" I answer, that makes nothing to the argument of universal assent, upon hearing and understanding: for, if that be the certain mark of innate, whatever proposition can be found that receives general assent as soon as heard and understood, that must be admitted for an innate

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Every proposition in which one different idea is denied of another will find assent on first hearing and understanding the terms. It will do so as certainly as this general one, “it is impossible for the same thing to be and not to be.” It will do so as certainly, too, as the proposition that is the foundation of this one and is the easier of the two to understand, “the same is not different.” On this account they will have legions of innate propositions of this one sort alone, without mentioning any other. But no proposition can be innate unless the ideas it is about are innate. So this will amount to supposing that all our ideas of colors, sounds, tastes, shape, etc., are innate. Nothing can be more opposed to reason and experience than that.

Universal and ready assent on hearing and understanding the terms is, I grant, a mark of self-evidence. But self-evidence depends not on innate impressions but on something else, as we will show later. It belongs to various propositions that nobody has yet been so extravagant as to claim are innate.

Such less general propositions known before these universal maxims.—Some more particular self-evident propositions are assented to on first hearing, such as that one and two are equal to three, that green is not red, etc. Let no one say that these are accepted as consequences of the more universal propositions regarded as innate principles. Anyone who will just take the trouble to observe what happens in the understanding will certainly find that these and similar less general propositions are certainly known and firmly assented to by people utterly ignorant of those more general maxims. These propositions, then, are in the mind earlier than those so-called first principles. So they cannot owe to them the assent with which they are received on first hearing.

“One and one equal to two,” etc., not general or useful, answered.—It may be said that “these propositions, namely, two and two are equal to four, red is not blue, etc., are not general maxims, nor of any great use.” I answer that this makes no difference to the argument from universal assent on hearing and understanding. If that is the certain mark of the innate, then any proposition that receives general assent as soon as it is heard and understood must

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proposition, as well as this maxim, "that it is impossible for the same thing to be, and not to be;" they being upon this ground equal.

And as to the difference of being more general, that makes this maxim more remote from being innate; those general and abstract ideas being more strangers to our first apprehensions, than those of more particular self-evident propositions; and therefore it is longer before they are admitted and assented to by the growing understanding. And as to the usefulness of these magnified maxims, that perhaps will not be found so great as is generally conceived, when it comes in its due place to be more fully considered.

1.2.21 *These maxims not being known sometimes until proposed, proves them not innate.*—But we have not yet done with assenting to propositions at first hearing and understanding their terms; it is fit we first take notice, that this, instead of being a mark that they are innate, is a proof of the contrary; since it supposes that several, who understand and know other things, are ignorant of these principles, until they are proposed to them; and that one may be unacquainted with these truths, until he hears them from others.

For if they were innate, what need they be proposed in order to gaining assent; when, by being in the understanding, by a natural and original impression (if there were any such), they could not but be known before? Or doth the proposing them print them clearer in the mind than nature did? If so, then the consequence will be, that a man knows them better after he has been thus taught them than he did before.

Whence it will follow, that these principles may be made more evident to us by others' teaching, than nature has made them by impression; which will ill agree with the opinion of innate principles, and give but little authority to them; but, on the contrary, makes them unfit to be the foundations of all our other knowledge, as they are pretended to be.

This cannot be denied; that men grow first acquainted with many of these self-evident truths, upon their being proposed; but it is clear, that whosoever does so, finds in himself that he then begins to know a proposition which he knew not before, and which, from thenceforth, he never

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be admitted as innate. It must be admitted just as much as this maxim, “that it is impossible for the same thing to be and not to be,” since on this ground they are equal.

As for the difference of being more general, that makes this maxim further from being innate. Those general and abstract ideas are more foreign to our first apprehensions than the ideas in more particular self-evident propositions. So it takes longer for the growing understanding to admit and assent to them. As for the usefulness of these celebrated maxims, that will perhaps not prove as great as is generally thought, when it is considered more fully in its proper place.

These maxims not being known sometimes until proposed proves them not innate.—But we have not yet finished with assenting to propositions on first hearing and understanding their terms. We should first note that this, instead of being a mark that they are innate, is a proof of the contrary. It supposes that various people who understand and know other things are ignorant of these principles until they are proposed to them. It also supposes that someone may be unacquainted with these truths until he hears them from others.

If they were innate, why would they need to be proposed in order to gain assent? They would be in the understanding by a natural and original impression (if there were any such thing), and so they could not fail to be known already. Or does proposing them print them more clearly on the mind than nature did? If so, it follows that a man knows them better after he has been taught them in this way than he did before.

From this it will follow that other people’s teaching can make these principles more evident to us than nature has made them by impression. That fits poorly with the opinion of innate principles and gives them little authority. On the contrary, it makes them unfit to be the foundations of all our other knowledge, as they are claimed to be.

This cannot be denied: men first become acquainted with many of these self-evident truths when they are proposed. But it is clear what happens to anyone who does so. He finds in himself that he is beginning to know a proposition he did not know

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questions; not because it was innate, but because the consideration of the nature of the things contained in those words, would not suffer him to think otherwise, how or whensoever he is brought to reflect on them: and if whatever is assented to, at first hearing and understanding the terms, must pass for an innate principle, every well-grounded observation, drawn from particulars into a general rule, must be innate; when yet it is certain, that not all, but only sagacious heads, light at first on these observations, and reduce them into general propositions, not innate, but collected from a preceding acquaintance, and reflection on particular instances.

These, when observing men have made them, unobserving men, when they are proposed to them, cannot refuse their assent to.

1.2.22 *Implicitly known before proposing, signifies, that the mind is capable of understanding them, or else signifies nothing.*—If it be said, "the understanding hath an implicit knowledge of these principles, but not an explicit, before this first hearing," (as they must, who will say, "that they are in the understanding, before they are known") it will be hard to conceive what is meant by a principle imprinted on the understanding implicitly, unless it be this; that the mind is capable of understanding and assenting firmly to such propositions.

And thus all mathematical demonstrations, as well as first principles, must be received as native impressions on the mind; which I fear they will scarce allow them to be, who find it harder to demonstrate a proposition, than assent to it when demonstrated. And few mathematicians will be forward to believe, that all the diagrams they have drawn were but copies of those innate characters which nature had engraven upon their minds.

1.2.23 *The argument of assenting on first hearing, is upon a false supposition of no precedent teaching.*—There is, I fear, this further weakness in the foregoing argument, which would persuade us, that therefore those maxims are to be thought innate, which men admit at first hearing, because they assent to propositions, which they are not taught, nor do receive from the force of any argument or

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before, and from then on he never questions it. This is not because it was innate. It is because considering the nature of the things contained in those words would not allow him to think otherwise, however and whenever he is brought to reflect on them. Suppose whatever is assented to on first hearing and understanding the terms must pass for an innate principle. Then every well-grounded observation, drawn from particulars into a general rule, must be innate. Yet it is certain that only sharp minds, not everyone, first hit on these observations and reduce them to general propositions. These propositions are not innate but gathered from previous acquaintance with, and reflection on, particular instances.

Once observant men have made these propositions, unobservant men cannot refuse their assent when they are proposed to them.

"Implicitly known before proposing" means that the mind is capable of understanding them, or else means nothing.—It may be said that "the understanding has an implicit knowledge of these principles, but not an explicit one, before this first hearing." Those who claim "that they are in the understanding before they are known" must say so. But it will be hard to conceive what is meant by a principle imprinted on the understanding implicitly, unless it is this: that the mind is capable of understanding such propositions and firmly assenting to them.

In that case all mathematical demonstrations, as well as first principles, must be accepted as native impressions on the mind. I fear this will hardly be granted by those who find it harder to demonstrate a proposition than to assent to it once it is demonstrated. And few mathematicians will be quick to believe that all the diagrams they have drawn were only copies of innate characters that nature had engraved on their minds.

The argument from assent on first hearing rests on the false assumption that there has been no previous teaching.—There is, I fear, a further weakness in the argument just mentioned. It would persuade us that the maxims men admit on first hearing should be thought innate, because men assent to propositions they are not taught, and do not accept from the force of any argument or demonstration but

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demonstration, but a bare explication or understanding of the terms. Under which, there seems to me to lie this fallacy; that men are supposed not to be taught, nor to learn any thing de novo; when, in truth, they are taught, and do learn something they were ignorant of before.

For first, it is evident, that they have learned the terms and their signification, neither of which was born with them. But this is not all the acquired knowledge in the case: the ideas themselves, about which the proposition is, are not born with them, no more than their names, but got afterward. So that in all propositions that are assented to at first hearing, the terms of the proposition, their standing for such ideas, and the ideas themselves that they stand for, being neither of them innate, I would fain know what there is remaining in such propositions that is innate. For I would gladly have any one name that proposition, whose terms or ideas were either of them innate.

We by degrees get ideas and names, and learn their appropriated connexion one with another; and then to propositions made in such terms, whose signification we have learnt, and wherein the agreement or disagreement we can perceive in our ideas, when put together, is expressed, we at first hearing assent; though to other propositions, in themselves as certain and evident, but which are concerning ideas not so soon or so easily got, we are at the same time no way capable of assenting.

For though a child quickly assents to this proposition, that an "apple is not fire," when, by familiar acquaintance, he has got the ideas of those two different things distinctly imprinted on his mind, and has learnt that the names apple and fire stand for them; yet, it will be some years after, perhaps, before the same child will assent to this proposition, "that it is impossible for the same thing to be, and not to be;" because, that though, perhaps, the words are as easy to be learnt, yet the signification of them being more large, comprehensive, and abstract, than of the names annexed to those sensible things the child hath to do with, it is longer before he learns their precise meaning, and it requires more time plainly to form in his mind those general ideas they stand for.

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merely from an explanation or understanding of the terms. Beneath this there seems to me to lie a fallacy. It supposes that men are not taught and do not learn anything new, when in truth they are taught, and do learn something they did not know before.

For, first, it is evident that they have learned the terms and what the terms signify, and neither of these was born with them. But that is not all the acquired knowledge in the case. The ideas themselves that the proposition is about were not born with them, any more than their names were; they were acquired afterward. So in all propositions assented to on first hearing, the terms of the proposition, their standing for certain ideas, and the ideas themselves that they stand for are none of them innate. I would very much like to know, then, what is left in such propositions that is innate. I would be glad to have anyone name a proposition whose terms or ideas were either of them innate.

We acquire ideas and names by degrees, and learn their proper connection with one another. Then we assent on first hearing to propositions made in terms whose meaning we have learned, and which express an agreement or disagreement we can perceive in our ideas when they are put together. Yet at the same time we are quite incapable of assenting to other propositions that are in themselves just as certain and evident, but that concern ideas not so soon or so easily acquired.

For a child quickly assents to the proposition that “an apple is not fire,” once familiar acquaintance has distinctly imprinted the ideas of those two different things on his mind, and he has learned that the names apple and fire stand for them. Yet it will perhaps be some years before the same child assents to the proposition “that it is impossible for the same thing to be and not to be.” The words may be just as easy to learn, but their meaning is broader, more comprehensive, and more abstract than that of the names attached to the sensible things the child deals with. So it takes him longer to learn their precise meaning, and it plainly takes more time to form in his mind the general ideas they stand for.

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Till that be done, you will in vain endeavour to make any child assent to a proposition made up of such general terms: but as soon as ever he has got those ideas, and learned their names, he forwardly closes with the one as well as the other of the fore-mentioned propositions, and with both for the same reason, viz. because he finds the ideas he has in his mind to agree or disagree, according as the words standing for them are affirmed or denied one of another in the proposition.

But if propositions be brought to him in words, which stand for ideas he has not yet in his mind, to such propositions, however evidently true or false in themselves, he affords neither assent nor dissent, but is ignorant: for words being but empty sounds, any farther than they are signs of our ideas, we cannot but assent to them, as they correspond to those ideas we have, but no farther than that. But the showing by what steps and ways knowledge comes into our minds, and the grounds of several degrees of assent, being the business of the following discourse, it may suffice to have only touched on it here, as one reason that made me doubt of those innate principles.

1.2.24 *Not innate, because not universally assented to.*—To conclude this argument of universal consent, I agree, with these defenders of innate principles, that if they are innate, they must needs have universal assent; for that a truth should be innate, and yet not assented to, is to me as unintelligible, as for a man to know a truth, and be ignorant of it at the same time. But then, by these men's own confession, they cannot be innate; since they are not assented to by those who understand not the terms, nor by a great part of those who do understand them, but have yet never heard nor thought of those propositions; which, I think, is at least one half of mankind.

But were the number far less, it would be enough to destroy universal assent, and thereby show these propositions not to be innate, if children alone were ignorant of them.

1.2.25 *These maxims not the first known.*—But that I may not be accused to argue from the thoughts of infants, which are unknown to us, and to conclude from what passes in their

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Until that is done, you will try in vain to make any child assent to a proposition made up of such general terms. But as soon as he has acquired those ideas and learned their names, he readily accepts the one proposition as well as the other, and both for the same reason, namely, because he finds that the ideas he has in his mind agree or disagree, according as the words standing for them are affirmed or denied of one another in the proposition.

But if propositions are put to him in words that stand for ideas he does not yet have in his mind, he gives them neither assent nor dissent, however evidently true or false they are in themselves; he is simply ignorant. For words are nothing but empty sounds except insofar as they are signs of our ideas. We cannot help assenting to them insofar as they correspond to the ideas we have, but no further. But since showing the steps and ways by which knowledge comes into our minds, and the grounds of the various degrees of assent, is the business of the discourse that follows, it may be enough to have merely touched on it here, as one reason that made me doubt those innate principles.

Not innate, because not universally assented to.—To conclude this argument from universal consent: I agree with these defenders of innate principles that if they are innate, they must have universal assent. For a truth to be innate and yet not assented to is as unintelligible to me as for a man to know a truth and be ignorant of it at the same time. But then, by these men's own admission, they cannot be innate. They are not assented to by those who do not understand the terms, nor by a large part of those who do understand them but have never yet heard of or thought about those propositions—which I think is at least half of mankind.

But even if the number were far smaller, and children alone were ignorant of them, it would be enough to destroy universal assent, and so to show that these propositions are not innate.

These maxims are not the first things known.—But so that I may not be accused of arguing from the thoughts of infants, which are unknown to us, and of drawing conclusions from what goes on in their

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understandings before they express it; I say next, that these two general propositions are not the truths that first possess the minds of children, nor are antecedent to all acquired and adventitious notions: which, if they were innate, they must needs be. Whether we can determine it or no, it matters not; there is certainly a time when children begin to think, and their words and actions do assure us that they do so.

When therefore they are capable of thought, of knowledge, of assent, can it rationally be supposed they can be ignorant of those notions that nature has imprinted, were there any such? Can it be imagined with any appearance of reason, that they perceive the impressions from things without, and be at the same time ignorant of those characters which nature itself has taken care to stamp within? Can they receive and assent to adventitious notions, and be ignorant of those which are supposed woven into the very principles of their being, and imprinted there in indelible characters, to be the foundation and guide of all their acquired knowledge and future reasonings?

This would be to make nature take pains to no purpose, or at least, to write very ill; since its characters could not be read by those eyes which saw other things very well; and those are very ill supposed the clearest parts of truth, and the foundations of all our knowledge, which are not first known, and without which the undoubted knowledge of several other things may be had.

The child certainly knows that the nurse that feeds it is neither the cat it plays with, nor the *[Black man]* it is afraid of; that the wormseed or mustard it refuses is not the apple or sugar it cries for; this it is certainly and undoubtedly assured of: but will any one say, it is by virtue of this principle, "that it is impossible for the same thing to be, and not to be," that it so firmly assents to these and other parts of its knowledge; or that the child has any notion or apprehension of that proposition, at an age, wherein yet, it is plain, it knows a great many other truths?

He that will say, children join these general abstract speculations with their sucking bottles, and their rattles, may perhaps with justice, be thought to have more passion and zeal for his

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understandings before they express it, I say next that these two general propositions are not the truths that first take possession of children's minds. Nor do they come before all acquired and adventitious notions, as they would have to if they were innate. Whether we can pin it down or not does not matter: there is certainly a time when children begin to think, and their words and actions assure us that they do.

When, therefore, they are capable of thought, of knowledge, of assent, can it rationally be supposed that they are ignorant of the notions nature has imprinted, if there were any? Can it be imagined with any show of reason that they perceive the impressions from things outside them, and are at the same time ignorant of the characters that nature itself has taken care to stamp within? Can they receive and assent to adventitious notions, and yet be ignorant of those that are supposed to be woven into the very principles of their being, and imprinted there in indelible characters to be the foundation and guide of all their acquired knowledge and future reasoning?

This would make nature take pains to no purpose, or at least write very badly, since its characters could not be read by eyes that saw other things very well. And it is a very poor supposition that truths which are not the first known, and without which the undoubted knowledge of many other things can be had, are the clearest parts of truth and the foundations of all our knowledge.

The child certainly knows that the nurse who feeds it is neither the cat it plays with nor the Black man it is afraid of, and that the wormseed or mustard it refuses is not the apple or sugar it cries for. Of this it is certainly and undoubtedly assured. But will anyone say that it is by virtue of the principle "that it is impossible for the same thing to be and not to be" that it so firmly assents to these and other parts of its knowledge? Or that the child has any notion or grasp of that proposition, at an age at which it plainly knows a great many other truths?

Anyone who will say that children join these general abstract speculations to their feeding bottles and their rattles may perhaps justly be thought to have more passion and zeal for his opinion, but less sincerity and truth, than a child of that age.

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opinion, but less sincerity and truth, than one of that age.

1.2.26 *And so not innate.*—Though therefore there be several general propositions that meet with constant and ready assent, as soon as proposed to men grown up, who have attained the use of more general and abstract ideas, and names standing for them; yet they not being to be found in those of tender years, who nevertheless know other things, they cannot pretend to universal assent of intelligent persons, and so by no means can be supposed innate; it being impossible that any truth which is innate (if there were any such) should be unknown, at least to any one who knows any thing else: since, if there are innate truths, they must be innate thoughts; there being nothing a truth in the mind that it has never thought on.

Whereby it is evident, if there be any innate truths in the mind, they must necessarily be the first of any thought on; the first that appear there.

1.2.27 *Not innate, because they appear least, where what is innate shows itself clearest.*—That the general maxims we are discoursing of are not known to children, *[the intellectually disabled]*, and a great part of mankind, we have already sufficiently proved; whereby it is evident, they have not a universal assent, nor are general impressions.

But there is this farther argument in it against their being innate: that these characters, if they were native and original impressions, should appear fairest and clearest in those persons in whom yet we find no footsteps of them: and it is, in my opinion, a strong presumption that they are not innate, since they are least known to those, in whom, if they were innate, they must needs exert themselves with most force and vigour.

For children, *[the intellectually disabled]*, *[people from preliterate societies]*, and illiterate people, being of all others the least corrupted by custom, or borrowed opinions, learning and education having not cast their native thoughts into new moulds, nor by superinducing foreign and studied doctrines, confounded those fair characters nature had written there; one might reasonably imagine, that in their minds, these innate notions should lie open fairly to every one's view, as it is certain the thoughts of children

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And so not innate.—There are, then, several general propositions that meet with constant and ready assent as soon as they are put to grown men, who have come to use more general and abstract ideas and names standing for them. Yet since these propositions are not found in those of tender years, who nevertheless know other things, they cannot claim the universal assent of intelligent persons, and so can by no means be supposed innate. For it is impossible that any innate truth (if there were any) should be unknown, at least to anyone who knows anything else. If there are innate truths, they must be innate thoughts, since nothing is a truth in the mind that it has never thought about.

From this it is evident that if there are any innate truths in the mind, they must necessarily be the first things thought of—the first that appear there.

Not innate, because they appear least where what is innate shows itself most clearly.—We have already sufficiently proved that the general maxims we are discussing are not known to children, to people with intellectual disabilities, and to a great part of mankind. From this it is evident that they do not have universal assent, and are not general impressions.

But there is this further argument against their being innate: if these characters were native and original impressions, they should appear fairest and clearest in the very persons in whom we find no trace of them. And in my opinion it is a strong presumption that they are not innate that they are least known to those in whom, if they were innate, they would have to exert themselves with the most force and vigor.

For children, people with intellectual disabilities, people from preliterate societies, and the illiterate are of all people the least corrupted by custom or borrowed opinions. Learning and education have not cast their native thoughts into new molds, nor, by laying foreign and studied doctrines over them, confused the fair characters nature had written there. One might reasonably imagine, then, that in their minds these innate notions would lie open to everyone's view, as the thoughts of children certainly do. It might very well be ex-

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do. It might very well be expected, that these principles should be perfectly known to *[the intellectually disabled]*, which being stamped immediately on the soul (as these men suppose), can have no dependence on the constitutions or organs of the body, the only confessed difference between them and others.

One would think, according to these men's principles, that all these native beams of light (were there any such) should in those who have no reserves, no arts of concealment, shine out in their full lustre, and leave us in no more doubt of their being there, than we are of their love of pleasure and abhorrence of pain. But, alas! among children, *[the intellectually disabled]*, *[people from preliterate societies]*, and the grossly illiterate, what general maxims are to be found? What universal principles of knowledge? Their notions are few and narrow, borrowed only from those objects they have had most to do with, and which have made upon their senses the frequentest and strongest impressions.

A child knows his nurse and his cradle, and by degrees, the playthings of a little more advanced age; and a young *[person from a preliterate society]* has, perhaps, his head filled with love and hunting, according to the fashion of his tribe. But he that from a child untaught, or a wild inhabitant of the woods, would expect these abstract maxims and reputed principles of sciences, will, I fear, find himself mistaken. Such kind of general propositions are seldom mentioned in the huts of Indians, much less are they to be found in the thoughts of children, or any impressions of them on the minds of *[the intellectually disabled]*.

They are the language and business of the schools and academies of learned nations, accustomed to that sort of conversation or learning, where disputes are frequent; these maxims being suited to artificial argumentation, and useful for conviction, but not much conducing to the discovery of truth or advancement of knowledge. But of their small use for the improvement of knowledge, I shall have occasion to speak more at large, *l.* 4, *c.* 7.

1.2.28 *Recapitulation.*—I know not how absurd this may seem to the masters of demonstration: and probably it will hardly down with any body at

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pected that these principles would be perfectly known to people with intellectual disabilities. For being stamped directly on the soul (as these men suppose), they can have no dependence on the constitution or organs of the body, which is the only acknowledged difference between such people and others.

One would think, on these men's principles, that all these native beams of light (if there were any) would shine out in their full luster in those who have no reserve and no arts of concealment, and leave us no more in doubt of their being there than we are of their love of pleasure and their abhorrence of pain. But alas! Among children, people with intellectual disabilities, people from preliterate societies, and the grossly illiterate, what general maxims are to be found? What universal principles of knowledge? Their notions are few and narrow, borrowed only from the objects they have had most to do with, and which have made the most frequent and strongest impressions on their senses.

A child knows his nurse and his cradle, and by degrees the playthings of a somewhat older age. A young man from a preliterate society has his head filled, perhaps, with love and hunting, according to the fashion of his tribe. But anyone who expects these abstract maxims and reputed principles of the sciences from an untaught child or a wild inhabitant of the woods will, I fear, find himself mistaken. General propositions of this kind are seldom mentioned in the huts of Native Americans, much less are they to be found in the thoughts of children, or any impressions of them in the minds of people with intellectual disabilities.

They are the language and business of the schools and academies of learned nations, accustomed to the kind of conversation or learning in which disputes are frequent. These maxims are suited to artificial argumentation and useful for convincing opponents, but they do not contribute much to the discovery of truth or the advancement of knowledge. Of their small use for the improvement of knowledge I shall have occasion to speak more fully in Book 4, chapter 7.

Recapitulation.—I do not know how absurd this may seem to the masters of demonstration, and probably it will hardly go down with anybody on

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first hearing. I must therefore beg a little truce with prejudice, and the forbearance of censure, till I have been heard out in the sequel of this discourse, being very willing to submit to better judgments. And since I impartially search after truth, I shall not be sorry to be convinced that I have been too fond of my own notions; which, I confess, we are all apt to be, when application and study have warmed our heads with them.

Upon the whole matter, I cannot see any ground to think these two speculative maxims innate, since they are not universally assented to; and the assent they so generally find is no other than what several propositions, not allowed to be innate, equally partake in with them; and since the assent that is given them is produced another way, and comes not from natural inscription, as I doubt not but to make appear in the following discourse. And if these first principles of knowledge and science are found not to be innate, no other speculative maxims can (I suppose) with better right pretend to be so.

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first hearing. I must therefore beg a little truce with prejudice, and ask that censure be held back until I have been heard out in the rest of this discourse; I am very willing to submit to better judgments. And since I am searching impartially for truth, I shall not be sorry to be convinced that I have been too fond of my own notions—which, I confess, we are all apt to be when application and study have warmed our heads with them.

On the whole, I cannot see any ground for thinking these two speculative maxims innate. They are not universally assented to. The assent they so generally meet with is no different from what several propositions not admitted to be innate share equally with them. And the assent given them is produced in another way, and does not come from natural inscription, as I have no doubt I shall make clear in the discourse that follows. And if these first principles of knowledge and science are found not to be innate, no other speculative maxims can (I suppose) claim with better right to be so.

NO INNATE PRACTICAL PRINCIPLES

Locke argues that no moral rule commands universal assent, so none can be innate.

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1.3.1 *No moral principles so clear and so generally received as the forementioned speculative maxims.*—If those speculative maxims, whereof we discoursed in the foregoing chapter, have not an actual universal assent from all mankind, as we there proved, it is much more visible concerning practical principles, that they come short of a universal reception: and I think it will be hard to instance any one moral rule which can pretend to so general and ready an assent as, "what is, is;" or to be so manifest a truth as this, "that it is impossible for the same thing to be, and not to be." Whereby it is evident that they are farther removed from a title to be innate; and the doubt of their being native impressions on the mind is stronger against those moral principles than the other.

Not that it brings their truth at all in question: they are equally true, though not equally evident. Those speculative maxims carry their own evidence with them: but moral principles require reasoning and discourse, and some exercise of the

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No moral principles are as clear and as generally received as the speculative maxims just mentioned.—If the speculative maxims we discussed in the previous chapter do not have an actual universal assent from all mankind, as we proved there, it is much more plainly visible that practical principles fall short of universal acceptance. I think it will be hard to give an example of any one moral rule that can claim so general and ready an assent as "what is, is," or that is so manifest a truth as "that it is impossible for the same thing to be and not to be." From this it is evident that they are further removed from any title to be innate, and the doubt that they are native impressions on the mind is stronger against moral principles than against the others.

Not that this calls their truth into question at all. They are equally true, though not equally evident. Those speculative maxims carry their own evidence with them, but moral principles require reasoning and discussion, and some exercise of the

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mind, to discover the certainty of their truth. They lie not open as natural characters engraven on the mind; which, if any such were, they must needs be visible by themselves, and by their own light be certain and known to every body.

But this is no derogation to truth and certainty, no more than it is to the truth or certainty of the three angles of a triangle being equal to two right ones; because it is not so evident, as, "the whole is bigger than a part;" nor so apt to be assented to at first hearing. It may suffice, that these moral rules are capable of demonstration; and therefore it is our own fault if we come not to a certain knowledge of them. But the ignorance wherein many men are of them, and the slowness of assent wherewith others receive them, are manifest proofs that they are not innate, and such as offer themselves to their view without searching.

1.3.2 *Faith and justice not owned as principles by all men.*— Whether there be any such moral principles, wherein all men do agree, I appeal to any who have been but moderately conversant in the history of mankind, and looked abroad beyond the smoke of their own chimneys. Where is that practical truth, that is universally received without doubt or question, as it must be if innate? Justice, and keeping of contracts, is that which most men seem to agree in. This is a principle which is thought to extend itself to the dens of thieves, and the confederacies of the greatest villains; they who have gone farthest towards the putting off of humanity itself, keep faith and rules of justice one with another.

I grant that outlaws themselves do this one amongst another; but it is without receiving these as the innate laws of nature. They practise them as rules of convenience within their own communities: but it is impossible to conceive, that he embraces justice as a practical principle, who acts fairly with his fellow-highwayman, and at the same time plunders or kills the next honest man he meets with. Justice and truth are the common ties of society; and, therefore, even outlaws and robbers, who break with all the world besides, must keep faith and rules of equity among themselves, or else they cannot hold together.

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mind, to discover the certainty of their truth. They do not lie open as natural characters engraved on the mind. If there were any such characters, they would have to be visible by themselves, and certain and known to everybody by their own light.

But this is no disparagement of their truth and certainty, any more than it is of the truth or certainty that the three angles of a triangle are equal to two right angles, just because that is not as evident as “the whole is bigger than a part,” nor as apt to be assented to on first hearing. It is enough that these moral rules are capable of demonstration, so that it is our own fault if we do not arrive at certain knowledge of them. But the ignorance many men are in about them, and the slowness with which others assent to them, are clear proofs that they are not innate, and are not the kind of thing that presents itself to men’s view without searching.

Good faith and justice are not acknowledged as principles by all men.—Whether there are any such moral principles on which all men agree, I appeal to anyone who has been even moderately acquainted with the history of mankind, and has looked abroad beyond the smoke of his own chimney. Where is that practical truth that is universally received without doubt or question, as it would have to be if it were innate? Justice, and the keeping of contracts, is what most men seem to agree on. This is a principle thought to extend even to the dens of thieves and the confederacies of the worst villains; those who have gone furthest toward putting off humanity itself keep faith and rules of justice with one another.

I grant that outlaws themselves do this among one another; but they do it without accepting these as innate laws of nature. They practice them as rules of convenience within their own communities. But it is impossible to conceive that someone embraces justice as a practical principle who deals fairly with his fellow highwayman and at the same time robs or kills the next honest man he meets. Justice and truth are the common ties of society. So even outlaws and robbers, who break with all the rest of the world, must keep faith and rules of fairness among themselves, or they cannot hold together.

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But will any one say, that those that live by fraud or rapine have innate principles of truth and justice which they allow and assent to?

1.3.3 *Objection, Though men deny them in their practice, yet they admit them in their thoughts, answered.*— Perhaps it will be urged, that the tacit assent of their minds agrees to what their practice contradicts. I answer, first, I have always thought the actions of men the best interpreters of their thoughts. But since it is certain, that most men's practices, and some men's open professions, have either questioned or denied these principles, it is impossible to establish an universal consent (though we should look for it only amongst grown men,) without which it is impossible to conclude them innate. Secondly, it is very strange and unreasonable to suppose innate practical principles that terminate only in contemplation.

Practical principles derived from nature are there for operation, and must produce conformity of action, not barely speculative assent to their truth, or else they are in vain distinguished from speculative maxims. Nature, I confess, has put into man a desire of happiness, and an aversion to misery; these indeed are innate practical principles, which (as practical principles ought) do continue constantly to operate and influence all our actions without ceasing; these may be observed, in all persons and all ages, steady and universal; but these are inclinations of the appetite to good, not impressions of truth on the understanding.

I deny not that there are natural tendencies imprinted on the minds of men; and that, from the very first instances of sense and perception, there are some things that are grateful, and others unwelcome to them; some things that they incline to, and others that they fly; but this makes nothing for innate characters on the mind, which are to be the principles of knowledge, regulating our practice.

Such natural impressions on the understanding are so far from being confirmed hereby, that this is an argument against them; since, if there were certain characters imprinted by nature on the understanding, as the principles of knowledge, we could not but perceive them constantly operate in us, and influence our knowledge, as we

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But will anyone say that those who live by fraud and plunder have innate principles of truth and justice that they accept and assent to?

The objection that, though men deny them in practice, they admit them in their thoughts, answered.—Perhaps it will be urged that the tacit assent of their minds agrees with what their practice contradicts. I answer, first, that I have always thought men's actions the best interpreters of their thoughts. But since it is certain that most men's practice, and some men's open declarations, have either questioned or denied these principles, it is impossible to establish a universal consent (even if we looked for it only among grown men), and without that it is impossible to conclude that they are innate. Second, it is very strange and unreasonable to suppose innate practical principles that end only in contemplation.

Practical principles derived from nature are there to operate, and must produce actions that conform to them, not merely a speculative assent to their truth; otherwise there is no point in distinguishing them from speculative maxims. Nature, I admit, has put into man a desire of happiness and an aversion to misery. These indeed are innate practical principles, which (as practical principles should) continue constantly to operate and influence all our actions without ceasing. They may be observed, steady and universal, in all persons and all ages. But these are inclinations of the appetite toward good, not impressions of truth on the understanding.

I do not deny that there are natural tendencies imprinted on men's minds, and that from the very first instances of sense and perception some things are pleasing to them and others unwelcome, some things they are drawn to and others they flee. But this does nothing to support innate characters on the mind that are supposed to be the principles of knowledge regulating our practice.

Far from confirming such natural impressions on the understanding, this is an argument against them. For if there were certain characters imprinted by nature on the understanding as the principles of knowledge, we could not help perceiving them constantly operating in us and influencing our knowledge, just as we perceive those others on

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do those others on the will and appetite; which never cease to be the constant springs and motives of all our actions, to which we perpetually feel them strongly impelling us.

1.3.4 *Moral rules need a proof, ergo, not innate.*—Another reason that makes me doubt of any innate practical principles, is, that I think there cannot any one moral rule be proposed, whereof a man may not justly demand a reason; which would be perfectly ridiculous and absurd, if they were innate, or so much as self-evident; which every innate principle must needs be, and not need any proof to ascertain its truth, nor want any reason to gain it approbation.

He would be thought void of common sense, who asked, on the one side, or on the other side went to give a reason, why "it is impossible for the same thing to be, and not to be." It carries its own light and evidence with it, and needs no other proof: he that understands the terms, assents to it for its own sake, or else nothing will ever be able to prevail with him to do it.

But should that most unshaken rule of morality, and foundation of all social virtue, "that one should do as he would be done unto," be proposed to one who never heard it before, but yet is of capacity to understand its meaning, might he not, without any absurdity, ask a reason why? And were not he that proposed it bound to make out the truth and reasonableness of it to him? which plainly shows it not to be innate; for if it were, it could neither want nor receive any proof; but must needs (at least as soon as heard and understood) be received and assented to, as an unquestionable truth, which a man can by no means doubt of.

So that the truth of all these moral rules plainly depends upon some other antecedent to them, and from which they must be deduced; which could not be, if either they were innate, or so much as self-evident.

1.3.5 *Instance in keeping compacts.*—That men should keep their compacts, is certainly a great and undeniable rule in morality. But yet, if a Christian, who has the view of happiness and misery in another life, be asked why a man must keep his word? he will give this as a reason; Because God, who has the power of eternal life

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the will and appetite. These never cease to be the constant springs and motives of all our actions, and we perpetually feel them strongly impelling us.

Moral rules need a proof; therefore they are not innate. —Another reason that makes me doubt any innate practical principles is that I think no moral rule can be proposed for which a man may not justly demand a reason. That would be perfectly ridiculous and absurd if they were innate, or even self-evident—which every innate principle must be, needing no proof to establish its truth and no reason to win it approval.

Anyone would be thought to lack common sense who asked, on the one side, or on the other side set out to give, a reason why “it is impossible for the same thing to be and not to be.” It carries its own light and evidence with it and needs no other proof. Whoever understands the terms assents to it for its own sake, or else nothing will ever be able to bring him to do so.

But suppose that most unshakable rule of morality and foundation of all social virtue, “that one should do as he would be done by,” were proposed to someone who had never heard it before but was capable of understanding its meaning. Might he not, without any absurdity, ask for a reason why? And would not the person proposing it be obliged to make its truth and reasonableness clear to him? This plainly shows that it is not innate. If it were, it could neither need nor receive any proof, but would have to be received and assented to (at least as soon as it was heard and understood) as an unquestionable truth that a man could in no way doubt.

So the truth of all these moral rules plainly depends on something else prior to them, from which they must be deduced—which could not be the case if they were innate, or even self-evident.

An example: keeping agreements.—That men should keep their agreements is certainly a great and undeniable rule of morality. But if a Christian, who looks ahead to happiness and misery in another life, is asked why a man must keep his word, he will give this reason: because God, who has the power of eternal life and death, requires it of us. If

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and death, requires it of us. But if a Hobbist be asked why, he will answer, Because the public requires it, and the leviathan will punish you if you do not.

And if one of the old philosophers had been asked, he would have answered, Because it was dishonest, below the dignity of a man, and opposite to virtue, the highest perfection of human nature, to do otherwise.

1.3.6 *Virtue generally approved, not because innate, but because profitable.*—Hence naturally flows the great variety of opinions concerning moral rules which are to be found among men, according to the different sorts of happiness they have a prospect of, or propose to themselves: which could not be, if practical principles were innate, and imprinted in our minds immediately by the hand of God.

I grant the existence of God is so many ways manifest, and the obedience we owe him so congruous to the light of reason, that a great part of mankind give testimony to the law of nature; but yet I think it must be allowed, that several moral rules may receive from mankind a very general approbation, without either knowing or admitting the true ground of morality; which can only be the will and law of a God, who sees men in the dark, has in his hand rewards and punishments, and power enough to call to account the proudest offender:

for God having, by an inseparable connexion, joined virtue and public happiness together, and made the practice thereof necessary to the preservation of society, and visibly beneficial to all with whom the virtuous man has to do, it is no wonder that every one should not only allow, but recommend and magnify, those rules to others, from whose observance of them he is sure to reap advantage to himself.

He may, out of interest as well as conviction, cry up that for sacred, which, if once trampled on and profaned, he himself cannot be safe nor secure. This, though it takes nothing from the moral and eternal obligation which these rules evidently have, yet it shows that the outward acknowledgment men pay to them in their words,

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a Hobbist is asked why, he will answer: because the public requires it, and Leviathan will punish you if you do not.[8]

And if one of the ancient philosophers had been asked, he would have answered: because it was dishonest, beneath the dignity of a man, and contrary to virtue, the highest perfection of human nature, to do otherwise.

Virtue is generally approved, not because it is innate, but because it is profitable.—From this naturally comes the great variety of opinions about moral rules found among men, according to the different kinds of happiness they look forward to or set before themselves. That could not be if practical principles were innate and imprinted on our minds directly by the hand of God.

I grant that the existence of God is manifest in so many ways, and the obedience we owe him is so agreeable to the light of reason, that a great part of mankind bear witness to the law of nature. Yet I think it must be allowed that several moral rules may meet with very general approval from mankind without men either knowing or admitting the true ground of morality. That ground can only be the will and law of a God who sees men in the dark, has rewards and punishments in his hand, and has power enough to call the proudest offender to account:

for since God has joined virtue and public happiness together by an inseparable connection, and made the practice of virtue necessary to the preservation of society and visibly beneficial to everyone the virtuous man deals with, it is no wonder that everyone should not only accept these rules but recommend and extol them to others, since he is sure to reap advantage for himself from their observing them.

He may, out of interest as well as conviction, cry up as sacred what, if it were once trampled on and profaned, would leave him neither safe nor secure. This takes nothing away from the moral and eternal obligation these rules evidently have. Yet it shows that the outward acknowledgment men pay them in words does not prove that they are innate

8 A "Hobbist" is a follower of Thomas Hobbes (1588–1679), whose *Leviathan* (1651) gave that name to the sovereign power of the commonwealth.

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proves not that they are innate principles; nay, it proves not so much as that men assent to them inwardly in their own minds, as the inviolable rules of their own practice; since we find that self-interest, and the conveniences of this life, make many men own an outward profession and approbation of them, whose actions sufficiently prove that they very little consider the lawgiver that prescribed these rules, nor the hell that he has ordained for the punishment of those that transgress them.

1.3.7 *Men's actions convince us that the rule of virtue is not their internal principle.*—For if we will not in civility allow too much sincerity to professions of most men, but think their actions to be the interpreters of their thoughts, we shall find that they have no such internal veneration for these rules, nor so full a persuasion of their certainty and obligation. The great principle of morality, "to do as one would be done to," is more commended than practised. But the breach of this rule cannot be a greater vice than to teach others that it is no moral rule, nor obligatory, would be thought madness, and contrary to that interest men sacrifice to, when they break it themselves.

Perhaps conscience will be urged as checking us for such breaches, and so the internal obligation and establishment of the rule be preserved.

1.3.8 *Conscience no proof of any innate moral rule.*—To which I answer, that I doubt not but, without being written on their hearts, many men may, by the same way that they come to the knowledge of other things, come to assent to several moral rules, and be convinced of their obligation. Others also may come to be of the same mind, from their education, company, and customs of their country; which persuasion, however got, will serve to set conscience on work, which is nothing else but our own opinion or judgment of the moral rectitude or pravity of our own actions.

And if conscience be a proof of innate principles, contraries may be innate principles; since some men, with the same bent of conscience, prosecute what others avoid.

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principles. Indeed, it does not even prove that men inwardly assent to them in their own minds as the inviolable rules of their own practice. For we find that self-interest and the conveniences of this life lead many men to make an outward profession of approval of them, whose actions sufficiently prove that they give very little thought to the lawgiver who prescribed these rules, or to the hell he has ordained for the punishment of those who break them.

Men's actions convince us that the rule of virtue is not their internal principle.—For if we do not, out of politeness, credit most men's professions with too much sincerity, but take their actions to be the interpreters of their thoughts, we shall find that they have no such inner veneration for these rules, nor so full a conviction of their certainty and obligation. The great principle of morality, "to do as one would be done by," is more praised than practiced. But though breaking this rule can be no greater vice than teaching others that it is no moral rule and not binding, such teaching would be thought madness, and contrary to the very interest men sacrifice to when they break it themselves.

Perhaps conscience will be urged as something that checks us for such breaches, so that the internal obligation and establishment of the rule is preserved.

Conscience is no proof of any innate moral rule.—To this I answer that I have no doubt that many men, without its being written on their hearts, may come to assent to several moral rules and be convinced of their obligation, in the same way that they come to know other things. Others may come to the same mind from their education, their company, and the customs of their country. This conviction, however acquired, will serve to set conscience to work—and conscience is nothing but our own opinion or judgment of the moral rightness or depravity of our own actions.

And if conscience is a proof of innate principles, then contraries may be innate principles, since some men, with the same bent of conscience, pursue what others avoid.

ENORMITIES WITHOUT REMORSE

Travelers' reports of cruel practices show that whole nations break supposed innate moral rules.

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1.3.9 *Instances of enormities practised without remorse.*— But I cannot see how any men should ever transgress those moral rules, with confidence and serenity, were they innate, and stamped upon their minds. View but an army at the sacking of a town, and see what observation or sense of moral principles, or what touch of conscience for all the outrages they do. Robberies, murders, rapes, are the sports of men set at liberty from punishment and censure. Have there not been whole nations, and those of the most civilized people, amongst whom the exposing their children, and leaving them in the fields to perish by want or wild beasts, has been the practice, as little condemned or scrupled, as the begetting them?

Do they not still, in some countries, put them into the same graves with their mothers, if they die in childbirth; or despatch them, if a pretended astrologer declares them to have unhappy stars? And are there not places where, at a certain age, they kill or expose their parents without any remorse at all? In a part of Asia, the sick, when their case comes to be thought desperate, are carried out and laid on the earth, before they are dead; and left there, exposed to wind and weather, to perish without assistance or pity[1]. It is familiar among the Mingrelians, a people professing Christianity, to bury their children alive without scruple[2]. There are places where they geld their children[3].

The Caribbees were wont to geld their children, on purpose to fat and eat them[4]. And Garcilasso de la Vega tells us of a people in Peru which were wont to fat and eat the children they got on their female captives, whom they kept as concubines for that purpose; and when they were past breeding, the mothers themselves were killed, too, and eaten[5]. The virtues whereby the Tououpinambos believed they merited paradise were revenge, and eating abundance of their enemies. They have not so much as the name of God[6], and have no religion, no worship. The

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Examples of enormities committed without remorse.— But I cannot see how any men could ever break those moral rules with confidence and serenity if they were innate and stamped on their minds. Just look at an army sacking a town, and see what observance or sense of moral principles, what touch of conscience, there is for all the outrages they commit. Robberies, murders, rapes are the sport of men set free from punishment and censure. Have there not been whole nations, and those among the most civilized peoples, among whom exposing their children and leaving them in the fields to perish from want or wild beasts has been the practice, as little condemned or hesitated over as begetting them?

Do they not still, in some countries, put children into the same graves with their mothers if the mothers die in childbirth, or dispatch them if a pretended astrologer declares that they were born under unlucky stars? And are there not places where, at a certain age, they kill or expose their parents without any remorse at all? In a part of Asia, when the case of the sick comes to be thought hopeless, they are carried out and laid on the ground before they are dead, and left there, exposed to wind and weather, to perish without help or pity[1]. Among the Mingrelians, a people who profess Christianity, it is common to bury their children alive without scruple[2]. There are places where they castrate their children[3].[9]

The Caribs used to castrate their children in order to fatten and eat them[4]. And Garcilaso de la Vega tells us of a people in Peru who used to fatten and eat the children they had by their female captives, whom they kept as concubines for that purpose; and when the women were past childbearing, the mothers themselves were killed too and eaten[5]. The virtues by which the Tupinambá believed they earned paradise were revenge and eating great numbers of their enemies. They do not even have a word for God[6], and have no religion and no worship. The saints canonized among the

9 The Mingrelians are a people of western Georgia, in the Caucasus.

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saints who are canonized amongst the Turks lead lives which one cannot with modesty relate.

A remarkable passage to this purpose, out of the voyage of Baumgarten, which is a book not every day to be met with, I shall set down at large in the language it is published in. Ibi (sc. prope Belbes in Ægypto) vidimus sanctum unum Saracenicum inter arenarum cumulos, ita ut ex utero matris prodiit, nudum sedentem. Mos est, ut didicimus, *[Muslims]*, ut eos, qui amentes et sine ratione sunt, pro sanctis colant et venerentur. Insuper et eos, qui cum diu vitam egerint inquinatissimam, voluntariam demum pœnitentiam et paupertatem, sanctitate venerandos deputant. Ejusmodi vero genus hominum libertatem quandam effrænem habent, domos quas volunt intrandi, edendi, bibendi, et quod majus est, concumbendi; ex quo concubitu si proles secuta fuerit, sancta similiter habetur.

His ergo hominibus dum vivunt, magnos exhibent honores; mortuis vero vel templa vel monumenta extruunt amplissima, eosque contingere ac sepelire maximæ fortunæ ducunt loco. Audivimus hæc dicta et dicenda per interpretem a Mucrelo nostro. Insuper sanctum illum, quem eo loco vidimus, publicitus apprime commendari, eum esse hominem sanctum, divinum ac integritate præcipuum; eo quod, nec fœminarum unquam esset, nec puerorum sed tantummodo assellarum concubitor atque muliarum. Peregr. Baumgarten, l. 2, c. 1, p. 73. More of the same kind, concerning these precious saints among the Turks, may be seen in Pietro della Valle, in his letter of the 25th of January 1616. Where then are those innate principles of justice, piety, gratitude, equity, chastity?

Or, where is that universal consent, that assures us there are such inbred rules? Murders in duels, when fashion has made them honourable, are committed without remorse of conscience; nay, in many places, innocence in this case is the greatest ignominy. And if we look abroad, to take

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Turks lead lives that cannot be decently described.[10]

A remarkable passage to this purpose from the travels of Baumgarten, a book not met with every day, I shall set down in full in the language in which it was published. "There (namely near Belbes in Egypt) we saw a Muslim saint sitting naked among the heaps of sand, just as he came from his mother's womb. It is the custom among the Muslims, as we learned, to worship and venerate as saints those who are out of their minds and without reason. Moreover, those who, after long leading a most depraved life, at last take up voluntary penance and poverty, they likewise regard as worthy of veneration for their holiness. Men of this kind have a sort of unbridled liberty to enter any houses they like, to eat, to drink, and, what is more, to sleep with the women; and if a child follows from this intercourse, it too is considered holy.[11]

So they show these men great honors while they live, and when they are dead they build very large temples or monuments to them, and count it the greatest good fortune to touch and bury them. We heard these things said, and still to be said, from our Mucrelus through an interpreter. Moreover, that saint whom we saw in that place was publicly and highly commended as a holy man, godly and outstanding in integrity, because he had never had intercourse with women or boys, but only with she-asses and mules." Baumgarten, *Peregrinatio*, book 2, chapter 1, page 73. More of the same kind concerning these precious saints among the Turks may be seen in Pietro della Valle, in his letter of January 25, 1616. Where, then, are those innate principles of justice, piety, gratitude, equity, chastity?[12]

Or where is that universal consent that assures us there are such inborn rules? Murders in duels, when fashion has made them honorable, are committed without any remorse of conscience; indeed, in many places innocence in this matter is the greatest disgrace. And if we look abroad and

10 Inca Garcilaso de la Vega (1539–1616) was a historian of Peru, son of a Spanish conquistador and an Inca noblewoman. The Tupinambá were a people of the Brazilian coast, described by the French Protestant Jean de Léry (1536–1613) in his *History of a Voyage to the Land of Brazil* (1578).

11 Locke quotes this passage in Latin; it is translated here. Martin von Baumgarten, a German nobleman, made a pilgrimage to Egypt and the Holy Land in 1507–08; his account, *Peregrinatio*, was published in 1594.

12 Pietro della Valle (1586–1652) was an Italian traveler in the Near East and India whose travels were published as letters.

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a view of men as they are, we shall find that they have remorse in one place, for doing or omitting that which others, in another place, think they merit by.

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view men as they are, we shall find that in one place they feel remorse for doing or omitting what others, in another place, think earns them merit.

1.3.10 *Men have contrary practical principles.*—He that will carefully peruse the history of mankind, and look abroad into the several tribes of men, and with indifference survey their actions, will be able to satisfy himself that there is scarce that principle of morality to be named, or rule of virtue to be thought on, (those only excepted that are absolutely necessary to hold society together, which commonly, too, are neglected betwixt distinct societies,) which is not, somewhere or

Men have contrary practical principles.—Anyone who will carefully read the history of mankind, look abroad among the various tribes of men, and survey their actions impartially, will be able to satisfy himself of this. There is hardly a principle of morality that can be named, or a rule of virtue that can be thought of (except only those absolutely necessary to hold society together, and even these are commonly neglected between separate societ-

14 [1] Gruber apud Thevenot, part 4, p. 13. | [1] Gruber, in Thévenot, part 4, p. 13.[13]

13 Melchisédech Thévenot published a large French collection of travel accounts (1663–72); Johann Grueber was a Jesuit traveler in Asia.

16 [2] Lambert apud Thevenot, p. 38. | [2] Lambert, in Thévenot, p. 38.[15]

15 Archangelo Lamberti, an Italian missionary who wrote on Mingrelia.

18 [3] Vossius de Nili Origine, c. 18, 19. | [3] Vossius, On the Origin of the Nile, chapters 18, 19.[17]

17 Isaac Vossius (1618–1689), Dutch scholar.

20 [4] P. Mart. Dec. 1. | [4] Peter Martyr, Decades, 1.[19]

19 Peter Martyr d'Anghiera (1457–1526), author of the *Decades of the New World*.

21 [5] Hist. des Incas. l. 1. c. 12. | [5] History of the Incas, book 1, chapter 12.

22 [6] Lery, c. 16, 216 231. | [6] Léry, chapter 16, pp. 216, 231.

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other, slighted and condemned by the general fashion of whole societies of men, governed by practical opinions and rules of living quite opposite to others.

1.3.11 *Whole nations reject several moral rules.*—Here, perhaps, it will be objected, that it is no argument that the rule is not known, because it is broken. I grant the objection good where men, though they transgress, yet disown not the law; where fear of shame, censure, or punishment, carries the mark of some awe it has upon them. But it is impossible to conceive that a whole nation of men should all publicly reject and renounce what every one of them, certainly and infallibly, knew to be a law; for so they must, who have it naturally imprinted on their minds.

It is possible men may sometimes own rules of morality, which, in their private thoughts, they do not believe to be true, only to keep themselves in reputation and esteem among those who are persuaded of their obligation.

But it is not to be imagined that a whole society of men should publicly and professedly disown and cast off a rule, which they could not, in their own minds, but be infallibly certain was a law; nor be ignorant that all men they should have to do with knew it to be such: and therefore must every one of them apprehend from others all the contempt and abhorrence due to one who professes himself void of humanity: and one, who, confounding the known and natural measures of right and wrong, cannot but be looked on as the professed enemy of their peace and happiness. Whatever practical principle is innate, cannot but be known to every one to be just and good.

It is therefore little less than a contradiction to suppose that whole nations of men should, both in their professions and practice, unanimously and universally give the lie to what, by the most invincible evidence, every one of them knew to be true, right, and good. This is enough to satisfy us that no practical rule, which is any where universally, and with public approbation or allowance, transgressed, can be supposed innate. But I have something further to add, in answer to this objection.

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ies), that is not somewhere or other slighted and condemned by the general custom of whole societies of men, governed by practical opinions and rules of living quite opposite to those of others.

Whole nations reject several moral rules.—Here, perhaps, it will be objected that a rule's being broken is no argument that it is not known. I grant the objection holds where men, though they transgress, do not disown the law—where fear of shame, censure, or punishment shows the mark of some awe the law has over them. But it is impossible to conceive that a whole nation of men should all publicly reject and renounce what every one of them certainly and infallibly knew to be a law; for that is what they must know who have it naturally imprinted on their minds.

It is possible that men may sometimes acknowledge rules of morality which in their private thoughts they do not believe to be true, only to keep up their reputation and esteem among those who are persuaded of their obligation.

But it is not to be imagined that a whole society of men should publicly and openly disown and cast off a rule which they could not help being infallibly certain, in their own minds, was a law, and which they could not be unaware that all the men they dealt with knew to be such. Every one of them would then have to expect from the others all the contempt and abhorrence due to someone who declares himself devoid of humanity—someone who, by confounding the known and natural measures of right and wrong, cannot but be looked on as the declared enemy of their peace and happiness. Whatever practical principle is innate cannot fail to be known by everyone to be just and good.

It is therefore little short of a contradiction to suppose that whole nations of men should, both in what they profess and in what they practice, unanimously and universally give the lie to what every one of them knew, by the most invincible evidence, to be true, right, and good. This is enough to satisfy us that no practical rule that is anywhere universally broken, with public approval or permission, can be supposed innate. But I have something further to add in answer to this objection.

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The breaking of a rule, say you, is no argument that it is unknown. I grant it: but the generally allowed breach of it any where, I say, is a proof that it is not innate. For example, let us take any of these rules, which being the most obvious deductions of human reason, and conformable to the natural inclination of the greatest part of men, fewest people have had the impudence to deny, or inconsideration to doubt of. If any can be thought to be naturally imprinted, none, I think, can have a fairer pretence to be innate than this; "parents preserve and cherish your children." When, therefore, you say that this is an innate rule, what do you mean?

Either that it is an innate principle, which upon all occasions excites and directs the actions of all men; or else, that it is a truth, which all men have imprinted on their minds, and which therefore they know and assent to. But in neither of these senses is it innate.

First, that it is not a principle which influences all men's actions, is what I have proved by the examples before cited: nor need we seek so far as Mingrelia or Peru to find instances of such as neglect, abuse, nay, and destroy their children; or look on it only as the more than brutality of some *[pre-civilized]* nations, when we remember that it was a familiar and uncondemned practice among the Greeks and Romans to expose, without pity or remorse, their innocent infants. Secondly, that it is an innate truth, known to all men, is also false.

For "parents, preserve your children," is so far from an innate truth, that it is no truth at all: it being a command, and not a proposition, and so not capable of truth or falsehood. To make it capable of being assented to as true, it must be reduced to some such propositions as this: "it is the duty of parents to preserve their children." But what duty is, cannot be understood without a law; nor a law be known, or supposed, without a lawmaker, or without reward and punishment; so that it is impossible that this, or any other practical principle, should be innate, i.

e. be imprinted on the mind as a duty, without supposing the ideas of God, of law, of obligation, of punishment, of a life after this, innate. For that punishment follows not, in this life, the breach of this rule, and consequently, that it has not the force of a law in countries where the generally

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The breaking of a rule, you say, is no argument that it is unknown. I grant it. But the generally permitted breaking of it anywhere is, I say, a proof that it is not innate. For example, let us take one of those rules which, being the most obvious deductions of human reason and in keeping with the natural inclination of most men, the fewest people have had the impudence to deny or the thoughtlessness to doubt. If any rule can be thought naturally imprinted, none, I think, has a better claim to be innate than this: “Parents, preserve and cherish your children.” When you say, then, that this is an innate rule, what do you mean?

Either that it is an innate principle which on all occasions stirs up and directs the actions of all men; or else that it is a truth which all men have imprinted on their minds, and which they therefore know and assent to. But it is innate in neither of these senses.

First, that it is not a principle that influences all men’s actions I have proved by the examples cited above. Nor need we go as far as Mingrelia or Peru to find examples of people who neglect, abuse, and even destroy their children, or regard this merely as the worse-than-brutish behavior of some remote nations, when we remember that among the Greeks and Romans it was a common and uncondemned practice to expose their innocent infants without pity or remorse. Second, that it is an innate truth known to all men is also false.

For “Parents, preserve your children” is so far from being an innate truth that it is no truth at all, since it is a command and not a proposition, and so is not capable of truth or falsehood. To make it capable of being assented to as true, it must be reduced to some proposition like this: “It is the duty of parents to preserve their children.” But what duty is cannot be understood without a law; nor can a law be known or supposed without a lawmaker, or without reward and punishment. So it is impossible that this, or any other practical principle, should be innate, that is,

be imprinted on the mind as a duty, without supposing that the ideas of God, of law, of obligation, of punishment, and of a life after this one are innate. For it is evident in itself that punishment does not follow the breach of this rule in this life, and consequently that the rule does not have the

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allowed practice runs counter to it, is in itself evident.

But these ideas (which must be all of them innate, if any thing as a duty be so) are so far from being innate, that it is not every studious or thinking man, much less every one that is born, in whom they are to be found clear and distinct; and that one of them, which of all others seems most likely to be innate, is not so (I mean the idea of God) I think, in the next chapter, will appear very evident to any considering man.

1.3.13 From what has been said, I think we may safely conclude, that whatever practical rule is, in any place, generally, and with allowance, broken, cannot be supposed innate: it being impossible that men should, without shame or fear, confidently and serenely break a rule, which they could not but evidently know that God had set up, and would certainly punish the breach of (which they must, if it were innate) to a degree to make it a very ill bargain to the transgressor. Without such a knowledge as this, a man can never be certain that any thing is his duty.

Ignorance, or doubt of the law, hopes to escape the knowledge or power of the lawmaker, or the like, may make men give way to a present appetite; but let any one see the fault, and the rod by it, and with the transgression a fire ready to punish it; a pleasure tempting, and the hand of the Almighty visibly held up, and prepared to take vengeance (for this must be the case, where any duty is imprinted on the mind;) and then tell me whether it be possible for people, with such a prospect, such a certain knowledge as this, wantonly, and without scruple, to offend against a law which they carry about them in indelible characters, and that stares them in the face whilst they are breaking it?

Whether men, at the same time that they feel in themselves the imprinted edicts of an omnipotent lawmaker, can with assurance and gaiety slight and trample under foot his most sacred injunctions? And lastly, whether it be possible, that whilst a man thus openly bids defiance to this innate law and supreme lawgiver, all the bystanders, yea, even the governors and rulers of the people, full of the same sense both of the law and law-maker, should silently connive, without

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force of a law in countries where the generally accepted practice runs counter to it.

But these ideas (which must all be innate if anything is innate as a duty) are so far from being innate that it is not every studious or thinking man, much less everyone who is born, in whom they are found clear and distinct. And that the one among them which seems most likely of all to be innate—I mean the idea of God—is not so will, I think, appear very evident to any thoughtful man in the next chapter.

From what has been said, I think we may safely conclude that any practical rule that is, in any place, generally and with permission broken cannot be supposed innate. For it is impossible that people should confidently and serenely break, without shame or fear, a rule that they could not help clearly knowing God had set up, and that he would certainly punish the breaking of (which they must know, if it were innate) so severely as to make it a very bad bargain for the transgressor. Without knowledge of this kind, a man can never be certain that anything is his duty.

Ignorance of the law or doubt about it, hopes of escaping the lawmaker's knowledge or power, and the like, may make people give way to a present appetite. But let anyone see the fault and the rod beside it, and with the transgression a fire ready to punish it; a tempting pleasure, and the hand of the Almighty visibly raised and ready to take vengeance (for this must be the case wherever a duty is imprinted on the mind). Then tell me whether it is possible for people with such a prospect, such certain knowledge as this, to offend recklessly and without scruple against a law that they carry about with them in indelible characters, and that stares them in the face while they are breaking it.

Tell me whether people, at the very time they feel in themselves the imprinted edicts of an omnipotent lawmaker, can confidently and cheerfully slight his most sacred commands and trample them underfoot. And lastly, tell me whether it is possible that, while a man openly defies this innate law and supreme lawgiver in this way, all the bystanders, and even the governors and rulers of the people, who are full of the same sense of both the law and the lawmaker, should silently look the

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testifying their dislike, or laying the least blame on it?

Principles of actions indeed there are lodged in men's appetites, but these are so far from being innate moral principles, that, if they were left to their full swing, they would carry men to the overturning of all morality. Moral laws are set as a curb and restraint to these exorbitant desires, which they cannot be but by rewards and punishments, that will overbalance the satisfaction any one shall propose to himself in the breach of the law. If, therefore, any thing be imprinted on the mind of all men as a law, all men must have a certain and unavoidable knowledge that certain and unavoidable punishment will attend the breach of it.

For if men can be ignorant or doubtful of what is innate, innate principles are insisted on and urged to no purpose; truth and certainty (the things pretended) are not at all secured by them; but men are in the same uncertain floating estate with as without them. An evident indubitable knowledge of unavoidable punishment, great enough to make the transgression very uneligible, must accompany an innate law; unless, with an innate law, they can suppose an innate gospel too. I would not be here mistaken, as if, because I deny an innate law, I thought there were none but positive laws.

There is a great deal of difference between an innate law, and a law of nature; between something imprinted on our minds in their very original, and something that we being ignorant of, may attain to the knowledge of by the use and due application of our natural faculties. And I think they equally forsake the truth, who, running into contrary extremes, either affirm an innate law, or deny that there is a law knowable by the light of nature, i. e. without the help of positive revelation.

1.3.14 *Those who maintain innate practical principles, tell us not what they are.*—The difference there is among men in their practical principles is so evident, that, I think, I need say no more to evince that it will be impossible to find any innate moral rules by this mark of general assent: and it is enough to make one suspect that the supposition of such innate principles is but an opinion taken

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other way, without expressing their disapproval or laying the least blame on it.

There are indeed principles of action lodged in men's appetites. But these are so far from being innate moral principles that, if they were given free rein, they would lead men to overturn all morality. Moral laws are set as a curb and restraint on these excessive desires. They can serve as such only through rewards and punishments that outweigh whatever satisfaction anyone expects to get from breaking the law. If, therefore, anything is imprinted on the minds of all men as a law, all men must have a certain and unavoidable knowledge that certain and unavoidable punishment will follow the breaking of it.

For if people can be ignorant or doubtful of what is innate, it is pointless to insist on and urge innate principles. Truth and certainty (the things they claim to provide) are not secured by them at all, and people are in the same uncertain, drifting state with them as without them. An innate law must be accompanied by a clear, indubitable knowledge of unavoidable punishment, great enough to make the transgression very undesirable, unless, along with an innate law, they can suppose an innate gospel too. I would not be misunderstood here. I do not think, because I deny an innate law, that there are no laws but positive ones.

There is a great deal of difference between an innate law and a law of nature. The first is something imprinted on our minds at their very beginning. The second is something we are ignorant of but may come to know by the use and proper application of our natural faculties. And I think those who run to opposite extremes depart from the truth equally: those who affirm an innate law, and those who deny that there is a law knowable by the light of nature, that is, without the help of positive revelation.

Those who maintain innate practical principles do not tell us what they are.—The difference among people in their practical principles is so evident that I think I need say no more to show that it will be impossible to find any innate moral rules by this mark of general assent. And it is enough to make one suspect that the supposition of such innate principles is only an opinion adopted at will, since

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up at pleasure; since those who talk so confidently of them are so sparing to tell us which they are.

This might with justice be expected from those men who lay stress upon this opinion; and it gives occasion to distrust either their knowledge or charity, who, declaring that God has imprinted on the minds of men the foundations of knowledge, and the rules of living, are yet so little favourable to the information of their neighbours, or the quiet of mankind, as not to point out to them which they are, in the variety men are distracted with. But, in truth, were there any such innate principles, there would be no need to teach them.

Did men find such innate propositions stamped on their minds, they would easily be able to distinguish them from other truths, that they afterwards learned and deduced from them; and there would be nothing more easy than to know what, and how many, they were. There could be no more doubt about their number than there is about the number of our fingers; and it is like then every system would be ready to give them us by tale. But since nobody, that I know, has yet ventured to give a catalogue of them, they cannot blame those who doubt of these innate principles; since even they who require men to believe that there are such innate propositions, do not tell us what they are.

It is easy to foresee, that if different men of different sects should go about to give us a list of those innate practical principles, they would set down only such as suited their distinct hypotheses, and were fit to support the doctrines of their particular schools or churches; a plain evidence that there are no such innate truths.

Nay, a great part of men are so far from finding any such innate moral principles in themselves, that by denying freedom to mankind, and thereby making men no other than bare machines, they take away not only innate, but all moral rules whatsoever, and leave not a possibility to believe any such, to those who cannot conceive how any thing can be capable of a law that is not a free agent; and, upon that ground, they must necessarily reject all principles of virtue, who cannot put morality and mechanism together;

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those who talk so confidently about them are so reluctant to tell us which they are.

This might justly be expected from those who lay such stress on this opinion. Some declare that God has imprinted the foundations of knowledge and the rules of living on the minds of men, and yet care so little about informing their neighbors or about the peace of mankind that they will not point out which these principles are, amid the variety of opinions that distracts people. That gives us reason to distrust either their knowledge or their charity. But in truth, if there were any such innate principles, there would be no need to teach them.

If people found such innate propositions stamped on their minds, they would easily be able to distinguish them from other truths that they learned afterward and deduced from them, and nothing would be easier than to know what they were and how many. There could be no more doubt about their number than there is about the number of our fingers, and then every system would probably be ready to count them out for us. But nobody I know of has yet ventured to give a catalog of them. So they cannot blame those who doubt these innate principles, since even those who require people to believe that there are such innate propositions do not tell us what they are.

It is easy to foresee what would happen if different men of different sects set about giving us a list of these innate practical principles. They would put down only those that suited their particular hypotheses and served to support the doctrines of their own schools or churches. That is plain evidence that there are no such innate truths.

Indeed, a great many people are so far from finding any such innate moral principles in themselves that they deny freedom to mankind, and so make men nothing but mere machines. In this way they take away not only innate moral rules but all moral rules whatever. Some cannot conceive how anything that is not a free agent can be capable of a law, and these people are left with no possibility of believing in any such rules. On that ground, those who cannot put morality and mechanism together must necessarily reject all prin-

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	which are not very easy to be reconciled or made consistent.	ciples of virtue; and the two are not very easy to reconcile or make consistent.

LORD HERBERT'S COMMON NOTIONS

Locke examines Herbert of Cherbury's five innate religious truths and finds them neither innate nor sufficient.

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1.3.15	*Lord Herbert's innate principles examined.*—When I had writ this, being informed that my lord Herbert had, in his book *De Veritate*, assigned these innate principles, I presently consulted him, hoping to find, in a man of so great parts, something that might satisfy me in this point, and put an end to my inquiry. In his chapter de Instinctu Naturali, p. 72. edit. 1656, I met with these six marks of his Notitiæ Communes: 1. Prioritas. 2. Independentia. 3. Universalitas. 4. Certitudo. 5. Necessitas, *i. e.* as he explains it, faciunt ad hominis conservationem. 6. Modus conformationis, *i. e.* Assensus nulla interposita mora.	*Lord Herbert's innate principles examined.*—After I had written this, I was told that Lord Herbert, in his book *De Veritate*, had specified these innate principles. I immediately consulted him, hoping to find in a man of such great abilities something that might satisfy me on this point and put an end to my inquiry. In his chapter "On Natural Instinct" (p. 72, edition of 1656), I found these six marks of his common notions: 1. Priority. 2. Independence. 3. Universality. 4. Certainty. 5. Necessity, that is, as he explains it, they serve to preserve human beings. 6. Manner of conformation, that is, assent without any delay.[23]
	And at the latter end of his little treatise, De Religione Laici, he says this of these innate principles: Adeo ut non uniuscujusvis religionis confinio arctentur quæ ubique vigent veritates. Sunt enim in ipsa mente cœlitus descriptæ, nullisque traditionibus, sive scriptis, sive non scriptis, obnoxiæ, p. 3. And "Veritates nostræ catholicæ quæ tanquam indubia Dei effata in foro interiori descriptæ." Thus having given the marks of the innate principles, or common notions, and asserted their being imprinted on the minds of men by the hand of God, he proceeds to set them down, and they are these: 1. Esse aliquod supremum numen. 2. Numen illud coli debere. 3. Virtutem cum pietate conjunctam optimam esse rationem cultus divini. 4. Resipiscendum esse a peccatis. 5.	And at the end of his little treatise *On the Religion of the Layman* he says this of these innate principles: "So the truths that prevail everywhere are not confined within the bounds of any one religion. For they are inscribed in the mind itself by heaven, and are subject to no traditions, whether written or unwritten" (p. 3). And: "Our universal truths, which are inscribed in the inner court as undoubted utterances of God." Having given the marks of the innate principles, or common notions, and asserted that they are imprinted on men's minds by the hand of God, he goes on to set them down. They are these: 1. There is some supreme deity. 2. That deity ought to be worshipped. 3. Virtue joined with piety is the best way of worshipping God. 4. We must repent of our sins. 5.
	Dari præmium vel pœnam post hanc vitam transactam. Though I allow these to be clear truths, and such as, if rightly explained, a rational creature can hardly avoid giving his assent to; yet I think he is far from proving them innate impressions "in foro interiori descriptæ." For I must take leave to observe,	There is reward or punishment after this life is over. I grant that these are clear truths, and that a rational creature can hardly avoid assenting to them if they are rightly explained. Still, I think he is far from proving them to be innate impressions "inscribed in the inner court." For I must take the liberty of observing,
1.3.16	First, that these five propositions are either not all, or more than all, those common notions writ	First, that these five propositions are either not all, or more than all, of the common notions written on our minds by the finger of God, if it were reas-

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on our minds by the finger of God, if it were reasonable to believe any at all to be so written: since there are other propositions, which, even by his own rules, have as just a pretence to such an original, and may be as well admitted for innate principles, as at least some of these five he enumerates, viz. "do as thou wouldst be done unto;" and perhaps some hundreds of others, when well considered.

1.3.17 Secondly, that all his marks are not to be found in each of his five propositions, viz. his first, second, and third marks agree perfectly to neither of them; and the first, second, third, fourth, and sixth marks agree but ill to his third, fourth, and fifth propositions. For besides that we are assured from history of many men, nay, whole nations, who doubt or disbelieve some or all of them, I cannot see how the third, viz.

"that virtue joined with piety is the best worship of God," can be an innate principle, when the name or sound, virtue, is so hard to be understood; liable to so much uncertainty in its signification; and the thing it stands for so much contended about, and difficult to be known. And therefore this can be but a very uncertain rule of human practice, and serve but very little to the conduct of our lives, and is therefore very unfit to be assigned as an innate practical principle.

1.3.18 For let us consider this proposition as to its meaning (for it is the sense, and not sound, that is and must be the principle or common notion,) viz. "virtue is the best worship of God;" *i. e.* is most acceptable to him; which, if virtue be taken, as most commonly it is, for those actions which, according to the different opinions of several countries, are accounted laudable, will be a proposition so far from being certain, that it will not be true.

If virtue be taken for actions conformable to God's will, or to the rule prescribed by God, which is the true and only measure of virtue, when virtue is used to signify what is in its own nature right and good then this proposition, "that virtue is the best worship of God," will be most true and certain, but of very little use in human life: since it will amount to no more but this, viz. "that God

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onable to believe that any at all were written there. For there are other propositions which, even by his own rules, have as good a claim to such an origin, and may as well be admitted as innate principles, as at least some of the five he lists. One example is "do as you would be done by," and there are perhaps hundreds of others, when properly considered.

Second, that not all his marks are found in each of his five propositions. His first, second, and third marks fit none of them perfectly, and the first, second, third, fourth, and sixth marks fit his third, fourth, and fifth propositions only poorly. History assures us of many men, and even whole nations, who doubt or disbelieve some or all of them. But besides that, I cannot see how the third, namely,

"that virtue joined with piety is the best worship of God," can be an innate principle. The name or sound "virtue" is so hard to understand and so open to uncertainty in its meaning, and the thing it stands for is so much disputed and so difficult to know. So this can be only a very uncertain rule of human practice, of very little help in the conduct of our lives, and it is therefore quite unfit to be put forward as an innate practical principle.

For let us consider what this proposition means (for it is the sense, not the sound, that is and must be the principle or common notion). The proposition is "virtue is the best worship of God," that is, virtue is most acceptable to him. Virtue is most commonly taken for those actions that are counted praiseworthy according to the differing opinions of various countries. If it is taken that way, this proposition will be so far from being certain that it will not even be true.

Virtue may instead be taken for actions that conform to God's will, or to the rule God has prescribed, which is the true and only measure of virtue when "virtue" is used to signify what is right and good in its own nature. Taken that way, this proposition, "that virtue is the best worship of God," will be perfectly true and certain, but of very little use in human life. For it will amount to

23 Edward Herbert, Lord Herbert of Cherbury (1583–1648), whose *De Veritate* (1624) set out "common notions" of religion; he is often called the father of English deism.

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is pleased with the doing of what he commands;" which a man may certainly know to be true, without knowing what it is that God doth command; and so be as far from any rule or principle of his actions as he was before.

And I think very few will take a proposition which amounts to no more than this, viz. "that God is pleased with the doing of what he himself commands," for an innate moral principle writ on the minds of all men (however true and certain it may be,) since it teaches so little. Whosoever does so, will have reason to think hundreds of propositions innate principles; since there are many which have as good a title to be received for such, which nobody yet ever put into that rank of innate principles.

1.3.19 Nor is the fourth proposition (viz. "men must repent of their sins") much more instructive, till what those actions are that are meant by sins be set down. For the word peccata, or sins, being put, as it usually is, to signify in general ill actions, that will draw punishment upon the doers, what great principle of morality can that be, to tell us we should be sorry, and cease to do that which will bring mischief upon us, without knowing what those particular actions are, that will do so?

Indeed, this is a very true proposition, and fit to be inculcated on, and received by those, who are supposed to have been taught, what actions in all kinds are sins; but neither this nor the former can be imagined to be innate principles, nor to be of any use, if they were innate, unless the particular measures and bounds of all virtues and vices were engraven in men's minds, and were innate principles also; which I think is very much to be doubted.

And, therefore, I imagine it will scarce seem possible that God should engrave principles in men's minds, in words of uncertain signification, such as virtues and sins, which, among different men, stand for different things; nay, it cannot be supposed to be in words at all; which, being in most of these principles very general names, cannot be understood, but by knowing the particulars comprehended under them.

And, in the practical instances, the measures must be taken from the knowledge of the actions themselves, and the rules of them, abstracted

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no more than this: “that God is pleased when people do what he commands.” A man may know for certain that this is true without knowing what it is that God commands, and so be as far from any rule or principle of action as he was before.

And I think very few will take a proposition that amounts to no more than this, “that God is pleased when people do what he himself commands,” for an innate moral principle written on the minds of all men (however true and certain it may be), since it teaches so little. Anyone who does so will have reason to think hundreds of propositions are innate principles. There are many with as good a claim to be accepted as such, which nobody has ever yet put in that rank.

Nor is the fourth proposition (namely, “men must repent of their sins”) much more instructive, until it is set down which actions are meant by sins. For the word “peccata,” or sins, is usually used to signify in general bad actions that will bring punishment on those who do them. What great principle of morality can it be to tell us that we should be sorry for what will bring harm on us, and stop doing it, if we do not know which particular actions will do so?

This is indeed a very true proposition. It is fit to be impressed on, and accepted by, those who are supposed to have been taught which actions of every kind are sins. But neither this nor the previous one can be imagined to be an innate principle. Nor would either be of any use if it were innate, unless the particular measures and limits of all virtues and vices were engraved in men’s minds and were innate principles too, which I think is very much to be doubted.

And so I imagine it will hardly seem possible that God should engrave principles in men’s minds in words of uncertain meaning, such as “virtues” and “sins,” which stand for different things among different people. Indeed, these principles cannot be supposed to be in words at all. For the words in most of them are very general names, which cannot be understood except by knowing the particulars included under them.

And in practical cases, the measures must be taken from knowledge of the actions themselves and of the rules for them, abstracted from words

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from words, and antecedent to the knowledge of names; which rules a man must know, what language soever he chance to learn, whether English or Japanese, or if he should learn no language at all, or never should understand the use of words, as happens in the case of dumb and deaf men.

When it shall be made out that men ignorant of words, or untaught by the laws and customs of their country, know that it is part of the worship of God not to kill another man; not to know more women than one; not to procure abortion; not to expose their children; not to take from another what is his, though we want it ourselves, but, on the contrary, relieve and supply his wants; and whenever we have done the contrary we ought to repent, be sorry, and resolve to do so no more: when, I say, all men shall be proved actually to know and allow all these, and a thousand other such rules, all which come under these two general words made use of above, viz.

"virtutes et peccata," virtues and sins, there will be more reason for admitting these and the like for common notions and practical principles. Yet, after all, universal consent (were there any in moral principles) to truths, the knowledge whereof may be attained otherwise, would scarce prove them innate; which is all I contend for.

1.3.20 *Obj.—innate principles may be corrupted, answered.—* Nor will it be of much moment here to offer that very ready, but not very material answer, (viz.) that the innate principles of morality may, by education and custom, and the general opinion of those among whom we converse, be darkened, and at last quite worn out of the minds of men.

Which assertion of theirs, if true, quite takes away the argument of universal consent, by which this opinion of innate principles is endeavoured to be proved; unless those men will think it reasonable that their private persuasions, or that of their party, should pass for universal consent: a thing not unfrequently done, when men, presuming themselves to be the only masters of right reason, cast by the votes and opinions of the rest of mankind as not worthy the reckoning.

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and prior to any knowledge of names. A man would have to know these rules whatever language he happened to learn, whether English or Japanese. He would have to know them even if he learned no language at all, or never understood the use of words, as happens with people who are deaf and cannot speak.

Suppose it is shown that people who know no words, or who have not been taught by the laws and customs of their country, know that it is part of the worship of God not to kill another man; not to have relations with more than one woman; not to procure an abortion; not to abandon their children; not to take from another what is his, even though we need it ourselves, but on the contrary to relieve and supply his needs; and that whenever we have done the contrary we ought to repent, be sorry, and resolve not to do it again. When, I say, it is proved that all people actually know and accept all these, and a thousand other such rules, all of which fall under the two general words used above, namely,

“virtutes et peccata,” virtues and sins, there will be more reason to admit these and the like as common notions and practical principles. Yet even then, universal consent (if there were any in moral principles) to truths that can be known in some other way would hardly prove them innate, and that is all I am contending for.

Objection that innate principles may be corrupted, answered.—There is a very ready but not very relevant answer to all this: that the innate principles of morality may be darkened by education and custom, and by the general opinion of those we live among, and at last be completely worn out of men’s minds. It will not count for much to offer it here.

If this claim of theirs is true, it completely removes the argument from universal consent by which they try to prove this opinion of innate principles. The only way out is for these men to think it reasonable that their private convictions, or those of their party, should pass for universal consent. That is done not infrequently, when men who presume themselves the only masters of right reason cast aside the votes and opinions of the rest of mankind as not worth counting.

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And then their argument stands thus: "the principles which all mankind allow for true are innate; those that men of right reason admit, are the principles allowed by all mankind; we, and those of our mind, are men of reason; therefore, we agreeing, our principles are innate;" which is a very pretty way of arguing, and a short cut to infallibility. For otherwise it will be hard to understand, how there be some principles which all men do acknowledge and agree in; and yet there are none of those principles, which are not by depraved custom and ill education blotted out of the minds of many men; which is to say, that all men admit, but yet many men do deny and dissent from them.

And indeed the supposition of such first principles will serve us to very little purpose; and we shall be as much at a loss with as without them, if they may, by any human power, such as the will of our teachers, or opinions of our companions, be altered or lost in us; and notwithstanding all this boast of first principles and innate light, we shall be as much in the dark and uncertainty, as if there were no such thing at all: it being all one, to have no rule, and one that will warp any way; or, among various and contrary rules, not to know which is the right.

But concerning innate principles, I desire these men to say, whether they can, or cannot, by education and custom, be blurred and blotted out: if they cannot, we must find them in all mankind alike, and they must be clear in every body: and if they may suffer variation from adventitious notions, we must then find them clearest and most perspicuous nearest the fountain, in children and illiterate people, who have received least impressions from foreign opinions. Let them take which side they please, they will certainly find it inconsistent with visible matter of fact and daily observation.

1.3.21 *Contrary principles in the world.*—I easily grant that there are great numbers of opinions, which by men of different countries, educations, and tempers, are received and embraced as first and unquestionable principles; many whereof, both for their absurdity, as well as oppositions to one another, it is impossible should be true. But yet all those propositions, how remote soever from reason, are so sacred somewhere or other, that

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And then their argument runs like this: “The principles that all mankind accept as true are innate. The principles that men of right reason admit are the principles accepted by all mankind. We, and those who think as we do, are men of reason. Therefore, since we agree, our principles are innate.” That is a very pretty way of arguing, and a shortcut to infallibility. Otherwise it will be hard to understand how there can be some principles that all men acknowledge and agree on, and yet not one of those principles has escaped being blotted out of the minds of many men by corrupt custom and bad education. That is to say that all men accept them, and yet many men deny and dissent from them.

And indeed the supposition of such first principles will do us very little good. We shall be as much at a loss with them as without them if they can be altered or lost in us by any human power, such as the will of our teachers or the opinions of our companions. Despite all this boasting of first principles and innate light, we shall be as much in the dark and in uncertainty as if there were no such thing at all. For having no rule comes to the same thing as having one that will bend any way, or as not knowing which is the right one among various and contrary rules.

But concerning innate principles, I ask these men to say whether they can or cannot be blurred and blotted out by education and custom. If they cannot, we must find them in all mankind alike, and they must be clear in everybody. And if they can be altered by adventitious notions, then we must find them clearest and most evident nearest their source, in children and uneducated people, who have received the fewest impressions from outside opinions. Let them take whichever side they please. They will certainly find it inconsistent with visible matters of fact and daily observation.

Contrary principles in the world.—I readily grant that there are a great many opinions that people of different countries, upbringing, and temperament accept and embrace as first and unquestionable principles. Many of these cannot possibly be true, both because of their absurdity and because they contradict one another. Yet all these propositions, however far from reason, are so sacred somewhere or other that people will sooner part with

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men, even of good understanding in other matters, will sooner part with their lives, and whatever is dearest to them, than suffer themselves to doubt, or others to question, the truth of them.

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their lives, and with whatever is dearest to them, than allow themselves to doubt their truth or others to question it. This is true even of people of good understanding in other matters.

HOW MEN COME BY THEIR PRINCIPLES

Doctrines taught in childhood come to seem innate because no one remembers learning them.

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1.3.22 *How men commonly come by their principles.*—This, however strange it may seem, is that which every day's experience confirms; and will not, perhaps, appear so wonderful, if we consider the ways and steps by which it is brought about; and how really it may come to pass, that doctrines that have been derived from no better original than the superstition of a nurse, or the authority of an old woman, may, by length of time and consent of neighbours, grow up to the dignity of principles in religion or morality.

For such who are careful (as they call it) to principle children well (and few there be who have not a set of those principles for them, which they believe in) instil into the unwary, and as yet unprejudiced understanding (for white paper receives any characters,) those doctrines they would have them retain and profess.

These being taught them as soon as they have any apprehension, and still as they grow up confirmed to them, either by the open profession, or tacit consent, of all they have to do with: or at least by those of whose wisdom, knowledge, and piety, they have an opinion, who never suffer those propositions to be otherwise mentioned but as the basis and foundation on which they build their religion and manners; come, by these means, to have the reputation of unquestionable, self-evident, and innate truths.

1.3.23 To which we may add, that when men, so instructed, are grown up, and reflect on their own minds, they cannot find any thing more ancient there than those opinions which were taught them before their memory began to keep a register of their actions, or date the time when any new thing appeared to them; and therefore make no scruple to conclude, that those

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How men commonly come by their principles.—However strange this may seem, it is confirmed by everyday experience. And perhaps it will not seem so remarkable if we consider the ways and steps by which it comes about. Doctrines with no better origin than a nurse's superstition or an old woman's authority may, through length of time and the agreement of neighbors, really grow into the dignity of principles in religion or morality.

For there are people who take care (as they put it) to give children good principles, and there are few who do not have a set of such principles for them, which they believe in. These people instill into the unwary and as yet unprejudiced understanding (for white paper receives any characters) the doctrines they want the children to retain and profess.

These doctrines are taught them as soon as they have any understanding, and are confirmed to them continually as they grow up. They are confirmed either by the open profession or by the tacit consent of everyone the children have to do with, or at least of those whose wisdom, knowledge, and piety they respect. And these people never allow the propositions to be mentioned except as the basis and foundation on which they build their religion and morals. By these means the doctrines come to have the reputation of unquestionable, self-evident, and innate truths.

To this we may add that when people instructed in this way have grown up and reflect on their own minds, they cannot find anything older there than the opinions they were taught before their memory began to keep a record of their actions, or to date the time when anything new appeared to them. They cannot find in themselves where these

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propositions, of whose knowledge they can find in themselves no original, were certainly the impress of God and nature upon their minds, and not taught them by any one else.

These they entertain and submit to, as many do to their parents, with veneration; not because it is natural; nor do children do it where they are not so taught; but because, having been always so educated, and having no remembrance of the beginning of this respect, they think it is natural.

1.3.24 This will appear very likely, and almost unavoidably to come to pass, if we consider the nature of mankind, and the constitution of human affairs; wherein most men cannot live without employing their time in the daily labours of their calling; nor be at quiet in their minds without some foundation or principle to rest their thoughts on.

There is scarce any one so floating and superficial in his understanding, who hath not some reverenced propositions, which are to him the principles on which he bottoms his reasonings; and by which he judgeth of truth and falsehood, right and wrong which some, wanting skill and leisure, and others the inclination, and some being taught that they ought not to examine, there are few to be found who are not exposed by their ignorance, laziness, education, or precipitancy, to take them upon trust.

1.3.25 This is evidently the case of all children and young folk, and custom, a greater power than nature, seldom failing to make them worship for divine what she hath inured them to bow their minds and submit their understandings to, it is no wonder that grown men, either perplexed in the necessary affairs of life, or hot in the pursuit of pleasures, should not seriously sit down to examine their own tenets; especially when one of their principles is, that principles ought not to be questioned.

And had men leisure, parts, and will, who is there almost that dare shake the foundations of all his past thoughts and actions, and endure to bring upon himself the shame of having been a long time wholly in mistake and error? Who is there hardy enough to contend with the reproach which is every where prepared for those who dare

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propositions came from. So they have no hesitation in concluding that the propositions were certainly the imprint of God and nature on their minds, and not taught them by anyone else.

They hold these opinions and submit to them with veneration, as many do to their parents. They do not do this because it is natural, and children do not do it where they are not taught to. They do it because they have always been brought up that way and have no memory of when this respect began, so they think it is natural.

This will seem very likely, and almost unavoidable, if we consider the nature of mankind and the constitution of human affairs. Most people cannot live without spending their time in the daily labor of their occupation. Nor can they be at peace in their minds without some foundation or principle to rest their thoughts on.

There is hardly anyone so unsettled and superficial in his understanding that he does not have some revered propositions. These serve him as the principles on which he bases his reasoning, and by which he judges truth and falsehood, right and wrong. Some lack the skill and leisure to examine them, others lack the inclination, and some are taught that they ought not to examine them. So there are few to be found whose ignorance, laziness, education, or haste does not lead them to take these propositions on trust.

This is plainly the case with all children and young people. Custom is a greater power than nature, and it seldom fails to make them worship as divine whatever it has accustomed them to bow their minds and submit their understandings to. So it is no wonder that grown men, whether absorbed in the necessary business of life or eager in the pursuit of pleasure, do not sit down seriously to examine their own beliefs. That is especially true when one of their principles is that principles ought not to be questioned.

And even if people had the leisure, the ability, and the will, is there almost anyone who would dare to shake the foundations of all his past thoughts and actions, and bear to bring on himself the shame of having been wholly mistaken and in error for a long time? Who is bold enough to face the reproach that is everywhere ready for those who

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venture to dissent from the received opinions of their country or party? And where is the man to be found that can patiently prepare himself to bear the name of whimsical, skeptical, or atheist, which he is sure to meet with, who does in the least scruple any of the common opinions?

And he will be much more afraid to question those principles, when he shall think them, as most men do, the standards set up by God in his mind, to be the rule and touchstone of all other opinions. And what can hinder him from thinking them sacred, when he finds them the earliest of his own thoughts, and the most reverenced by others?

1.3.26 It is easy to imagine how by these means it comes to pass that men worship the idols that have been set up in their minds; grow fond of the notions they have long been acquainted with there; and stamp the characters of divinity upon absurdities and errors; become zealous votaries to bulls and monkeys; and contend too, fight and die, in defence of their opinions; "Dum solos credit habendos esse deos, quos ipse colit." For since the reasoning faculties of the soul, which are almost constantly, though not always warily nor wisely employed, would not know how to move, for want of a foundation and footing, in most men;

who, through laziness or avocation, do not, or for want of time, or true helps, or for other causes, cannot penetrate into the principles of knowledge, and trace truth to its fountain and original; it is natural for them, and almost unavoidable, to take up with some borrowed principles: which being reputed and presumed to be the evident proofs of other things, are thought not to need any other proof themselves.

Whoever shall receive any of these into his mind, and entertain them there, with the reverence usually paid to principles, never venturing to examine them, but accustoming himself to believe them, because they are to be believed, may take up from his education, and the fashions of his country, any absurdity for innate principles; and by long poring on the same objects, to dim his sight, as to take monsters

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dare to dissent from the accepted opinions of their country or party? Anyone who has the least doubt about any of the common opinions is sure to be called eccentric, skeptic, or atheist. And where is the man who can patiently prepare himself to bear those names?

And he will be much more afraid to question those principles when he thinks of them, as most people do, as standards set up by God in his mind to be the rule and touchstone of all his other opinions. And what can keep him from thinking them sacred, when he finds them the earliest of his own thoughts and the most revered by others?

It is easy to imagine how, by these means, people come to worship the idols that have been set up in their minds. They grow fond of the notions they have long been familiar with there, and stamp the marks of divinity on absurdities and errors. They become zealous devotees of bulls and monkeys, and they contend, fight, and die in defense of their opinions: “For each holds that the only gods to be worshipped are those he himself worships.” The reasoning faculties of the soul are almost constantly employed, though not always carefully or wisely. Yet in most people they would not know how to move, for lack of a foundation and footing;[24]

for most people do not get to the bottom of the principles of knowledge and trace truth to its source and origin. Some do not, through laziness or other occupations, and others cannot, for lack of time or real help or for other reasons. So it is natural and almost unavoidable for them to settle for some borrowed principles. These are reputed and presumed to be the clear proofs of other things, and so they are thought not to need any other proof themselves.

Suppose someone takes any of these into his mind and keeps them there with the reverence usually paid to principles, never venturing to examine them, but accustoming himself to believe them because they are to be believed. Such a person may take up any absurdity from his education and the fashions of his country as an innate principle. And by long poring over the same objects he may

24 The Latin is from Juvenal, *Satires* 15.37–38, mocking the rival animal cults of two Egyptian towns.

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lodged in his own brain for the images of the Deity, and the workmanship of his hands.

1.3.27 *Principles must be examined.*—By this progress how many there are who arrive at principles which they believe innate may be easily observed, in the variety of opposite principles held and contended for by all sorts and degrees of men. And he that shall deny this to be the method wherein most men proceed to the assurance they have of the truth and evidence of their principles, will perhaps find it a hard matter any other way to account for the contrary tenets which are firmly believed, confidently asserted, and which great numbers are ready at any time to seal with their blood.

And, indeed, if it be the privilege of innate principles to be received upon their own authority, without examination, I know not what may not be believed, or how any one's principles can be questioned. If they may and ought to be examined, and tried, I desire to know how first and innate principles can be tried; or at least it is reasonable to demand the marks and characters, whereby the genuine innate principles may be distinguished from others; that so, amidst the great variety of pretenders, I may be kept from mistakes in so material a point as this.

When this is done, I shall be ready to embrace such welcome and useful propositions; and till then, I may with modesty doubt, since I fear universal consent, which is the only one produced, will scarce prove a sufficient mark to direct my choice and assure me of any innate principles. From what has been said, I think it past doubt that there are no practical principles wherein all men agree, and therefore none innate.

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so dim his sight as to take monsters lodged in his own brain for the images of the Deity and the workmanship of his hands.

Principles must be examined.—How many people arrive by this process at principles they believe innate can easily be seen in the variety of opposing principles held and fought for by all sorts and ranks of people. Some may deny that this is the way most people come to the assurance they have of the truth and evidence of their principles. They will perhaps find it hard to account in any other way for the contrary beliefs that are firmly believed and confidently asserted, and that great numbers are ready at any time to seal with their blood.

And indeed, if it is the privilege of innate principles to be accepted on their own authority, without examination, I do not know what may not be believed, or how anyone's principles can be questioned. If they may and ought to be examined and tested, I would like to know how first and innate principles can be tested. Or at least it is reasonable to ask for the marks and characteristics by which the genuine innate principles may be distinguished from others. Then, amid the great variety of claimants, I may be kept from mistakes on so important a point as this.

When this is done, I shall be ready to embrace such welcome and useful propositions. Until then I may modestly doubt, since I fear that universal consent, which is the only mark produced, will hardly be enough to direct my choice and assure me of any innate principles. From what has been said, I think it is beyond doubt that there are no practical principles on which all men agree, and therefore none that are innate.

NO INNATE IDEAS

Principles cannot be innate unless their ideas are, and ideas such as identity and God are not.

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1.4.1 *Principles not innate, unless their ideas be innate.*—Had those who would persuade us that there are innate principles, not taken them together in gross, but considered separately the parts out of which those propositions are made, they would not, perhaps, have been so forward to believe they were innate: since, if the ideas which made

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Principles not innate unless their ideas are innate.—Those who would persuade us that there are innate principles took them all together in the lump. If they had considered separately the parts from which those propositions are made, they would perhaps not have been so quick to believe they

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up those truths were not, it was impossible that the propositions made up of them should be innate, or the knowledge of them be born with us. For if the ideas be not innate, there was a time when the mind was without those principles; and then they will not be innate, but be derived from some other original.

For where the ideas themselves are not, there can be no knowledge, no assent, no mental or verbal propositions about them.

1.4.2 *Ideas, especially those belonging to principles, not born with children.*—If we will attentively consider new-born children, we shall have little reason to think that they bring many ideas into the world with them. For bating perhaps some faint ideas of hunger and thirst, and warmth, and some pains which they may have felt in the womb, there is not the least appearance of any settled ideas at all in them; especially of ideas answering the terms which make up those universal propositions that are esteemed innate principles.

One may perceive how, by degrees, afterward, ideas come into their minds; and that they get no more, nor no other than what experience, and the observation of things that come in their way, furnish them with: which might be enough to satisfy us that they are not original characters stamped on the mind.

1.4.3 "It is impossible for the same thing to be, and not to be," is certainly (if there be any such) an innate principle. But can any one think, or will any one say, that impossibility and identity are two innate ideas? Are they such as all mankind have, and bring into the world with them? And are those which are the first in children, and antecedent to all acquired ones? If they are innate, they must needs be so. Hath a child an idea of impossibility and identity before it has of white or black, sweet or bitter?

And is it from the knowledge of this principle that it concludes, that wormwood rubbed on the nipple hath not the same taste that it used to receive from thence? Is it the actual knowledge of "impossibile est idem esse, et non esse," that makes a child distinguish between its mother and a stranger? or that makes it fond of the one and flee the other? Or does the mind regulate itself

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were innate. For if the ideas that made up those truths were not innate, it was impossible that the propositions made up of them should be innate, or that the knowledge of them should be born with us. If the ideas are not innate, there was a time when the mind was without those principles. And then the principles will not be innate, but will be derived from some other source.

For where the ideas themselves are absent, there can be no knowledge, no assent, and no mental or verbal propositions about them.

Ideas, especially those belonging to principles, not born with children.—If we consider newborn children attentively, we shall have little reason to think that they bring many ideas into the world with them. There may be some faint ideas of hunger and thirst and warmth, and of some pains they may have felt in the womb. But apart from these, there is not the least sign of any settled ideas at all in them. That holds especially for ideas corresponding to the terms in those universal propositions that are regarded as innate principles.

One can see how ideas come into their minds gradually afterward. They get no more ideas, and no others, than those that experience and the observation of things that come their way supply them with. This might be enough to convince us that these ideas are not original characters stamped on the mind.

“It is impossible for the same thing to be and not to be” is certainly an innate principle, if there is any such thing. But can anyone think, or will anyone say, that impossibility and identity are two innate ideas? Are they ideas that all mankind have and bring into the world with them? And are they the first ideas in children, prior to all acquired ones? If they are innate, they must be. Does a child have an idea of impossibility and identity before it has one of white or black, sweet or bitter?

And is it from knowledge of this principle that it concludes that wormwood rubbed on the nipple does not have the same taste it used to get from there? Is it actual knowledge of “it is impossible for the same thing to be and not to be” that makes a child distinguish between its mother and a stranger, or that makes it fond of the one and shrink from the other? Or does the mind regulate

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and its assent by ideas that it never yet had? or the understanding draw conclusions from principles which it never yet knew nor understood?

The names impossibility and identity stand for two ideas, so far from being innate, or born with us, that I think it requires great care and attention to form them right in our understanding. They are so far from being brought into the world with us, so remote from the thoughts of infancy and childhood, that I believe, upon examination, it will be found that many grown men want them.

1.4.4 *Identity, an idea not innate.*—If identity (to instance in that alone) be a native impression, and consequently so clear and obvious to us, that we must needs know it even from our cradles, I would gladly be resolved by one of seven, or seventy years old, whether a man, being a creature, consisting of soul and body, be the same man when his body is changed? Whether Euphorbus and Pythagoras, having had the same soul, were the same men, though they lived several ages asunder? Nay, whether the cock too, which had the same soul, were not the same with both of them?

Whereby, perhaps, it will appear that our idea of sameness is not so settled and clear as to deserve to be thought innate in us. For if those innate ideas are not clear and distinct, so as to be universally known, and naturally agreed on, they cannot be subjects of universal and undoubted truths; but will be the unavoidable occasion of perpetual uncertainty. For, I suppose, every one's idea of identity will not be the same that Pythagoras and others of his followers have: and which then shall be true? Which innate? Or are there two different ideas of identity, both innate?

1.4.5 Nor let any one think that the questions I have here proposed about the identity of man, are bare empty speculations; which, if they were, would be enough to show that there was in the understandings of men no innate idea of identity.

He that shall, with a little attention, reflect on the resurrection, and consider that divine justice will bring to judgment, at the last day, the very same

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itself and its assent by ideas it has never yet had? Or does the understanding draw conclusions from principles it has never yet known or understood?

The names "impossibility" and "identity" stand for two ideas that are far from being innate or born with us. I think it takes great care and attention to form them correctly in our understanding. They are so far from being brought into the world with us, and so remote from the thoughts of infancy and childhood, that I believe examination will show that many grown men lack them.

Identity, an idea not innate.—Take identity alone as an example. If it is a native impression, and therefore so clear and obvious to us that we must know it even from the cradle, I would gladly have someone of seven, or of seventy, settle these questions for me. A man is a creature made up of soul and body. Is he the same man when his body is changed? Euphorbus and Pythagoras had the same soul. Were they the same man, though they lived several ages apart? Indeed, the rooster too had the same soul. Was it not the same as both of them?[25]

This may perhaps show that our idea of sameness is not so settled and clear as to deserve to be thought innate in us. Suppose those innate ideas are not clear and distinct enough to be universally known and naturally agreed on. Then they cannot be the subjects of universal and undoubted truths, and will inevitably cause perpetual uncertainty. For I suppose not everyone's idea of identity will be the same as that of Pythagoras and his followers. Which, then, shall be true? Which innate? Or are there two different ideas of identity, both innate?

And let no one think that the questions I have raised here about the identity of man are mere empty speculations. Even if they were, that would be enough to show that there was no innate idea of identity in men's understandings.

Anyone who reflects a little attentively on the resurrection may find it not easy to decide for himself what makes the same man, or what identity

25 Pythagoras claimed to have been the Trojan warrior Euphorbus in an earlier life; in Lucian's satire *The Dream, or the Cock*, his soul later lives in a rooster.

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persons, to be happy or miserable in the other, who did well or ill in this life, will find it perhaps not easy to resolve with himself what makes the same man, or wherein identity consists: and will not be forward to think he, and every one, even children themselves, have naturally a clear idea of it.

1.4.6 *Whole and part not innate ideas.*—Let us examine that principle of mathematics, viz. "that a whole is bigger than a part." This, I take it, is reckoned among innate principles. I am sure it has as good a title as any to be thought so; which yet nobody can think it to be, when he considers the ideas it comprehends in it, "whole and part," are perfectly relative; but the positive ideas, to which they properly and immediately belong, are extension and number, of which alone whole and part are relations.

So that if whole and part are innate ideas, extension and number must be so too; it being impossible to have an idea of a relation without having any at all of the thing to which it belongs, and in which it is founded. Now, whether the minds of men have naturally imprinted on them the ideas of extension and number, I leave to be considered by those who are the patrons of innate principles.

1.4.7 *Ideas of worship not innate.*—"That God is to be worshipped," is, without doubt as great a truth as any can enter into the mind of man, and deserves the first place among all practical principles. But yet it can by no means be thought innate, unless the ideas of God and worship are innate. That the idea the term worship stands for is not in the understanding of children, and a character stamped on the mind in its first original, I think, will be easily granted by any one that considers how few there be among grown men, who have a clear and distinct notion of it.

And, I suppose, there cannot be any thing more ridiculous than to say that children have this practical principle innate, "that God is to be worshipped:" and yet that they know not what that worship of God is, which is their duty. But to pass by this:

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consists in. On the last day divine justice will bring to judgment the very same persons who did well or ill in this life, to be happy or miserable in the next. Whoever considers this will not be quick to think that he, and everyone, even children themselves, naturally have a clear idea of identity.

Whole and part not innate ideas.—Let us examine the mathematical principle “that a whole is bigger than a part.” This, I take it, is counted among innate principles. I am sure it has as good a claim as any to be thought so. Yet nobody can think it is innate once he considers the ideas it contains. “Whole” and “part” are purely relative. The positive ideas to which they properly and immediately belong are extension and number, and whole and part are relations of these alone.

So if whole and part are innate ideas, extension and number must be innate too, since it is impossible to have an idea of a relation without having any idea of the thing to which it belongs and on which it is founded. Now I leave it to the champions of innate principles to consider whether the ideas of extension and number are naturally imprinted on men’s minds.

Ideas of worship not innate.—“That God is to be worshipped” is without doubt as great a truth as any that can enter the mind of man, and it deserves first place among all practical principles. Yet it can by no means be thought innate unless the ideas of God and worship are innate. The idea the term “worship” stands for is not in the understanding of children as a character stamped on the mind at its very beginning. I think anyone will readily grant this who considers how few grown men have a clear and distinct notion of it.

And I suppose nothing could be more ridiculous than to say that children have this practical principle, “that God is to be worshipped,” innate in them, and yet do not know what that worship of God is which is their duty. But to pass over this:

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Whole nations lack any notion of God, and those who have one conceive him very differently.

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1.4.8 *Idea of God not innate.*—If any idea can be imagined innate, the idea of God may, of all others, for many reasons, be thought so; since it is hard to conceive how there should be innate moral principles without an innate idea of a Deity: without a notion of a lawmaker, it is impossible to have a notion of a law, and an obligation to observe it. Besides the atheists taken notice of among the ancients, and left branded upon the records of history, hath not navigation discovered, in these later ages, whole nations, at the bay of Soldania[1], in Brazil[2], in Boranday[3], and in the Caribee islands, &c. among whom there was to be found no notion of a God, no religion?

Nicholaus del Techo in literis ex Paraquaria de Caaiguarum conversione, has these words[4]: "Reperi eam gentem nullum nomen habere, quod Deum et hominis animam significet, nulla sacra habet, nulla idola." These are instances of nations where uncultivated nature has been left to itself, without the help of letters and discipline, and the improvement of arts and sciences. But there are others to be found, who have enjoyed these in a very great measure, who yet, for want of a due application of their thoughts this way, want the idea and knowledge of God. It will, I doubt not, be a surprise to others, as it was to me, to find the Siamites of this number.

But for this let them consult the king of France's late envoy thither[5], who gives no better account of the Chinese themselves[6]. And if we will not believe La Loubere, the missionaries of China, even the Jesuits themselves, the great encomiasts of the Chinese, do all, to a man, agree, and will convince us that the sect of the literati, or learned, keeping to the old religion of China, and the ruling party there, are all of them atheists. [Vid. Navarette, in the collection of voyages, vol. i.

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Idea of God not innate.—If any idea can be imagined to be innate, the idea of God may, for many reasons, be thought so above all others. For it is hard to conceive how there could be innate moral principles without an innate idea of a Deity: without a notion of a lawmaker, it is impossible to have a notion of a law and of an obligation to observe it. Besides the atheists noted among the ancients and left branded in the records of history, has not navigation in these recent ages discovered whole nations, at the Bay of Soldania[1], in Brazil[2], in Boranday[3], in the Caribbean islands, and elsewhere, among whom there was no notion of a God and no religion?[26]

Nicolás del Techo, in his letters from Paraguay on the conversion of the Caaiguas, writes these words[4]: “I found that this people has no name that signifies God or the human soul; it has no sacred rites, no idols.” These are examples of nations where uncultivated nature has been left to itself, without the help of letters and discipline and the improvements of arts and sciences. But there are other peoples who have enjoyed these things in very great measure. Yet they lack the idea and knowledge of God, because they have not applied their thoughts properly in this direction. I have no doubt it will surprise others, as it did me, to find the Siamese among them.[27]

But on this point let them consult the King of France’s recent envoy there[5], who gives no better account of the Chinese themselves[6]. And if we will not believe La Loubère, there are the missionaries in China, and even the Jesuits themselves, who are great admirers of the Chinese. They all agree to a man, and will convince us, that the sect of the literati, or learned, are all atheists. These keep to the old religion of China and are the ruling party there. [See Navarrete, in the Collection of Voyages, vol. 1,[28]

26 “Soldania” (Saldanha) was the name English travelers of the period gave to Table Bay at the Cape of Good Hope.
27 Nicolás del Techo (1611–1685), Jesuit missionary and historian of Paraguay; the Caaiguas were an Indigenous people of the region.
28 Simon de La Loubère was the French envoy to Siam in 1687–88 (*Du Royaume de Siam*, 1691). Domingo Fernández Navarrete, a Dominican missionary in China, had his treatises printed in Churchill’s *Collection of Voyages* (1704).

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and Historia cultus Sinensium.] And perhaps if we should, with attention, mind the lives and discourse of people not so far off, we should have too much reason to fear, that many in more civilized countries have no very strong and clear impressions of a Deity upon their minds; and that the complaints of atheism, made from the pulpit, are not without reason. And though only some profligate wretches own it too barefacedly now; yet perhaps we should hear more than we do of it from others, did not the fear of the magistrate's sword, or their neighbour's censure, tie up people's tongues; which, were the apprehensions of punishment or shame taken away, would as openly proclaim their atheism, as their lives do.....

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1.4.9 But had all mankind, every where, a notion of a God, (whereof yet history tells us the contrary) it would not from thence follow that the idea of him was innate. For though no nation were to be found without a name, and some few dark notions

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and Historia cultus Sinensium.] And perhaps we should look attentively at the lives and talk of people not so far away. If we did, we would have too much reason to fear that many in more civilized countries have no very strong and clear impressions of a Deity on their minds, and that the complaints of atheism made from the pulpit are not without cause. Only some profligate wretches admit to it too shamelessly now. Yet perhaps we would hear more of it from others than we do, if fear of the magistrate's sword or of their neighbors' censure did not tie people's tongues. If the fear of punishment or shame were taken away, their tongues would proclaim their atheism as openly as their lives do

But even if all mankind everywhere had a notion of a God (though history tells us the contrary), it would not follow that the idea of him was innate. Even if no nation were found without a name for him and a few dim notions of him, that would not

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[1] Roe apud Thevenot, p. 2.

[1] Roe, in Thévenot, p. 2.[29]

29 Sir Thomas Roe's account of his embassy, printed in Thévenot's collection.

31

[2] Jo. de Lery, c. 16.

[2] Jean de Léry, ch. 16.

33

[3] Martiniere 201/322. Terry 17/545 and 23/545. Ovington 489/606.

[3] Martinière 201/322. Terry 17/545 and 23/545. Ovington 489/606.[32]

32 Travel writers Pierre-Martin de La Martinière, Edward Terry, and John Ovington.

35

[4] Relatio triplex de rebus Indicis Caaiguarum 43/70.

[4] *Relatio triplex de rebus Indicis Caaiguarum*, 43/70.[34]

34 A Jesuit report (1654) on the Caaiguá people of the Paraguay region.

36

[5] La Loubere du Royaume du Siam, t. 1, c. 9, sect. 15, and c. 20, sect. 22, and c. 22, sect. 6.

[5] La Loubère, *Du Royaume de Siam*, vol. 1, ch. 9, sec. 15; ch. 20, sec. 22; and ch. 22, sec. 6.

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[6] Ib. t. 1. c. 20, sect. 4, and c. 23.

[6] Ibid., vol. 1, ch. 20, sec. 4, and ch. 23.

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of him, yet that would not prove them to be natural impressions on the mind, any more than the names of fire, or the sun, heat, or number, do prove the ideas they stand for to be innate, because the names of those things, and the ideas of them, are so universally received and known among mankind.

Nor, on the contrary, is the want of such a name, or the absence of such a notion, out of men's minds, any argument against the being of a God; any more than it would be a proof that there was no loadstone in the world, because a great part of mankind had neither a notion of any such thing, nor a name for it; or by any show of argument to prove, that there are no distinct and various species of angels or intelligent beings above us, because we have no ideas of such distinct species, or names for them: for men being furnished with words, by the common language of their own countries, can scarce avoid having some kind of ideas of those things, whose names those they converse with have occasion frequently to mention to them.

And if they carry with it the notion of excellency, greatness, or something extraordinary; if apprehension and concernment accompany it; if the fear of absolute and irresistible power set it on upon the mind, the idea is likely to sink the deeper, and spread the farther: especially if it be such an idea as is agreeable to the common light of reason, and naturally deducible from every part of our knowledge, as that of a God is. For the visible marks of extraordinary wisdom and power appear so plainly in all the works of the creation, that a rational creature, who will but seriously reflect on them, cannot miss the discovery of a Deity.

And the influence that the discovery of such a being must necessarily have on the minds of all, that have but once heard of it, is so great, and carries such a weight of thought and communication with it, that it seems strange to me that a whole nation of men should be any where found so brutish as to want the notion of a God, than that they should be without any notion of numbers or fire.

1.4.10 The name of God being once mentioned in any part of the world, to express a superior, powerful, wise, invisible being, the suitableness of such a

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prove these to be natural impressions on the mind. The names of fire, the sun, heat, or number do not prove the ideas they stand for to be innate just because the names of those things, and the ideas of them, are so universally received and known among mankind.

Nor, on the other hand, is the lack of such a name, or the absence of such a notion from men's minds, any argument against the existence of a God. It would no more be one than it would be a proof that there was no lodestone in the world because a great part of mankind had neither a notion of any such thing nor a name for it. Nor could it be even the semblance of an argument that there are no distinct and various species of angels or intelligent beings above us, because we have no ideas of such distinct species, or names for them. Men are furnished with words by the common language of their own countries, and so they can hardly avoid having some kind of ideas of those things whose names the people they talk with often have occasion to mention to them.

The idea is likely to sink deeper and spread farther if the name carries with it the notion of excellence, greatness, or something extraordinary; if apprehension and concern accompany it; or if the fear of absolute and irresistible power presses it on the mind. This is especially so if it is an idea that agrees with the common light of reason and can be naturally deduced from every part of our knowledge, as the idea of a God can. For the visible marks of extraordinary wisdom and power appear so plainly in all the works of creation that a rational creature who will only reflect seriously on them cannot fail to discover a Deity.

And the discovery of such a being must necessarily have a great influence on the minds of all who have heard of it even once, and it carries such a weight of thought and communication with it. So it seems stranger to me that a whole nation of men should be found anywhere so brutish as to lack the notion of a God than that they should be without any notion of numbers or fire.

Suppose the name of God has once been used in any part of the world to express a superior, powerful, wise, invisible being. The fitness of such a no-

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notion to the principles of common reason, and the interest men will always have to mention it often, must necessarily spread it far and wide, and continue it down to all generations; though yet the general reception of this name, and some imperfect and unsteady notions conveyed thereby to the unthinking part of mankind, prove not the idea to be innate; but only that they who made the discovery had made a right use of their reason, thought maturely of the causes of things, and traced them to their original; from whom other less considering people, having once received so important a notion, it could not easily be lost again.

1.4.11 This is all could be inferred from the notion of a God, were it to be found universally in all the tribes of mankind, and generally acknowledged by men grown to maturity in all countries. For the generality of the acknowledging of a God, as I imagine, is extended no farther than that; which if it be sufficient to prove the idea of God innate, will as well prove the idea of fire innate; since, I think, it may be truly said, that there is not a person in the world, who has a notion of a God, who has not also the idea of fire.

I doubt not, but if a colony of young children should be placed in an island where no fire was, they would certainly neither have any notion of such a thing, nor name for it; how generally soever it were received and known in all the world besides: and perhaps too their apprehensions would be as far removed from any name or notion of a God, till some one among them had employed his thoughts to inquire into the constitution and causes of things, which would easily lead him to the notion of a God; which having once taught to others, reason, and the natural propensity of their own thoughts, would afterward propagate and continue among them.

1.4.12 *Suitable to God's goodness, that all men should have an idea of him, therefore naturally imprinted by him, answered.*—Indeed it is urged, that it is suitable to the goodness of God to imprint upon the minds of men characters and notions of himself, and not to leave them in the dark and doubt in so grand a concernment; and also by that means to secure to himself the homage and veneration due from so

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tion to the principles of common reason, and the interest men will always have in mentioning it often, must necessarily spread it far and wide and carry it down to all generations. Yet the general acceptance of this name, and the imperfect and unsteady notions it conveys to the unthinking part of mankind, do not prove the idea to be innate. They prove only that those who made the discovery had made a right use of their reason, had thought maturely about the causes of things, and had traced them to their origin. And once other, less reflective people had received so important a notion from them, it could not easily be lost again.

This is all that could be inferred from the notion of a God, even if it were found universally in all the tribes of mankind and generally acknowledged by adults in all countries. For as I imagine, the acknowledgment of a God is general only in that sense and no further. If that is sufficient to prove the idea of God innate, it will equally prove the idea of fire innate. I think it may truly be said that there is not a person in the world who has a notion of a God who does not also have the idea of fire.

Suppose a colony of young children were placed on an island where there was no fire. I do not doubt that they would have neither any notion of such a thing nor a name for it, however generally it was received and known in all the rest of the world. And perhaps their minds would be just as far from any name or notion of a God. That would last until someone among them had turned his thoughts to inquiring into the constitution and causes of things, which would easily lead him to the notion of a God. Once he had taught it to others, reason and the natural tendency of their own thoughts would afterward spread it and keep it alive among them.

That it suits God's goodness that all men should have an idea of him, and that he therefore naturally imprinted it: answered.—It is indeed urged that it suits the goodness of God to imprint characters and notions of himself on men's minds, and not to leave them in the dark and in doubt about so grand a concern. By that means, too, he would secure for himself the homage and veneration due from so intelligent

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intelligent a creature as man; and therefore he has done it.

This argument, if it be of any force, will prove much more than those who use it in this case expect from it. For if we may conclude that God hath done for men all that men shall judge is best for them, because it is suitable to his goodness so to do; it will prove not only that God has imprinted on the minds of men an idea of himself, but that he hath plainly stamped there, in fair characters, all that men ought to know or believe of him, all that they ought to do in obedience to his will; and that he hath given them a will and affections conformable to it.

This, no doubt, every one will think better for men, than that they should in the dark grope after knowledge, as St Paul tells us all nations did after God, Acts xvii. 27, than that their wills should clash with their understandings, and their appetites cross their duty. The Romanists say, it is best for men, and so suitable to the goodness of God, that there should be an infallible judge of controversies on earth; and therefore there is one. And I, by the same reason say, it is better for men that every man himself should be infallible. I leave them to consider, whether by the force of this argument they shall think that every man is so.

I think it a very good argument to say, the infinitely wise God hath made it so; and therefore it is best. But it seems to me a little too much confidence of our own wisdom to say, "I think it best, and therefore God hath made it so;" and, in the matter in hand, it will be in vain to argue from such a topic that God hath done so, when certain experience shows us that he hath not.

But the goodness of God hath not been wanting to men without such original impressions of knowledge, or ideas stamped on the mind: since he hath furnished man with those faculties, which will serve for the sufficient discovery of all things requisite to the end of such a being. And I doubt not but to show that a man, by the right use of his natural abilities, may, without any innate principles, attain a knowledge of a God, and other things that concern him.

God having endued man with those faculties of knowing which he hath, was no more obliged by

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a creature as man. And therefore, it is said, he has done it.

This argument, if it has any force, will prove much more than those who use it in this case expect. Suppose we may conclude that God has done for men everything that men judge is best for them, because it suits his goodness to do so. Then it will prove not only that God has imprinted an idea of himself on men's minds. It will prove that he has plainly stamped there, in clear letters, everything men ought to know or believe about him and everything they ought to do in obedience to his will, and that he has given them a will and affections in keeping with it.

No doubt everyone will think this better for men than that they should grope after knowledge in the dark, as St. Paul tells us all nations did after God (Acts 17:27). They will also think it better than that their wills should clash with their understandings and their appetites cross their duty. The Roman Catholics say it is best for men, and so suits the goodness of God, that there should be an infallible judge of controversies on earth; and therefore there is one. And I, by the same reasoning, say it is better for men that every man should himself be infallible. I leave them to consider whether the force of this argument will make them think that every man is so.

I think it a very good argument to say: the infinitely wise God has made it so, and therefore it is best. But it seems to me a little too much confidence in our own wisdom to say, "I think it best, and therefore God has made it so." And in the matter at hand, it will be useless to argue from such a premise that God has done so, when certain experience shows us that he has not.

But the goodness of God has not failed men for lack of such original impressions of knowledge, or ideas stamped on the mind. He has furnished man with faculties that will serve to discover sufficiently everything required for the purpose of such a being. And I have no doubt that I can show that a man may attain a knowledge of a God, and of other things that concern him, by the right use of his natural abilities and without any innate principles.

God endowed man with the faculties of knowing that he has. Having done so, he was no more ob-

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his goodness to plant those innate notions in his mind, than that, having given him reason, hands, and materials, he should build him bridges or houses; which some people in the world, however of good parts, do either totally want, or are but ill provided of, as well as others are wholly without ideas of God, and principles of morality; or at least have but very ill ones. The reason in both cases being, that they never employed their parts, faculties, and powers industriously that way, but contented themselves with the opinions, fashions, and things of their country, as they found them, without looking any farther.

Had you or I been born at the bay of Soldania, possibly our thoughts and notions had not exceeded those brutish ones of the *[Khoikhoi]* that inhabit there: and had the Virginia king Apochancana been educated in England, he had been, perhaps, as knowing a divine, and as good a mathematician, as any in it. The difference between him and a more improved Englishman lying barely in this, that the exercise of his faculties was bounded within the ways, modes, and notions of his own country, and never directed to any other or farther inquiries; and if he had not any idea of a God, it was only because he pursued not those thoughts that would have led him to it.

1.4.13 *Ideas of God various in different men.*—I grant that if there were any idea to be found imprinted on the minds of men, we have reason to expect it should be the notion of his Maker, as a mark God set on his own workmanship, to mind man of his dependence and duty; and that herein should appear the first instances of human knowledge. But how late is it before any such notion is discoverable in children? And when we find it there, how much more does it resemble the opinion and notion of the teacher, than represent the true God?

He that shall observe in children the progress whereby their minds attain the knowledge they have, will think that the objects they do first and most familiarly converse with, are those that make the first impressions on their understandings; nor will he find the least footsteps of any other. It is easy to take notice how their thoughts enlarge themselves, only as they

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liged by his goodness to plant those innate notions in his mind than he was obliged, having given him reason, hands, and materials, to build him bridges or houses. Some people in the world, however gifted, either totally lack such things or are poorly provided with them, just as others are wholly without ideas of God and principles of morality, or at least have only very poor ones. In both cases the reason is the same. They never applied their abilities, faculties, and powers diligently in that direction, but contented themselves with the opinions, fashions, and things of their country as they found them, without looking any farther.

Had you or I been born at the Bay of Soldania, our thoughts and notions might well not have gone beyond the crude ones of the Khoikhoi who live there. And had the Virginian king Apochancana been educated in England, he might perhaps have been as learned a theologian and as good a mathematician as anyone in it. The difference between him and a more cultivated Englishman lies simply in this: the exercise of his faculties was confined within the ways, customs, and notions of his own country, and never directed to any other or further inquiries. And if he had no idea of a God, it was only because he did not pursue the thoughts that would have led him to it.[38]

Ideas of God vary in different men.—I grant that if any idea were to be found imprinted on men's minds, we would have reason to expect it to be the notion of their Maker. It would be a mark God set on his own workmanship to remind man of his dependence and duty, and here the first instances of human knowledge should appear. But how late is it before any such notion can be found in children? And when we do find it there, how much more does it resemble the opinion and notion of the teacher than represent the true God?

Anyone who observes the process by which children's minds attain the knowledge they have will conclude that the first impressions on their understandings are made by the objects they first and most familiarly deal with. Nor will he find the least trace of any other. It is easy to notice that their thoughts expand only as they become ac-

38 "Apochancana" is Opechancanough (d. 1646), paramount chief of the Powhatan Confederacy in Virginia.

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come to be acquainted with a greater variety of sensible objects, to retain the ideas of them in their memories; and to get the skill to compound and enlarge them, and several ways put them together. How by these means they come to frame in their minds an idea men have of a Deity I shall hereafter show.

1.4.14 Can it be thought that the ideas men have of God are the characters and marks of himself, engraven on their minds by his own finger, when we see that in the same country, under one and the same name, men have far different, nay, often contrary and inconsistent ideas and conceptions of him? Their agreeing in a name or sound, will scarce prove an innate notion of him.

1.4.15 What true or tolerable notion of a Deity could they have, who acknowledged and worshipped hundreds? Every deity that they owned above one was an infallible evidence of their ignorance of him, and a proof that they had no true notion of God, where unity, infinity, and eternity, were excluded. To which, if we add their gross conceptions of corporeity, expressed in their images and representations of their deities; the amours, marriages, copulations, lusts, quarrels, and other mean qualities attributed by them to their gods; we shall have little reason to think, that the heathen world, i. e.

the greatest part of mankind, had such ideas of God in their minds, as he himself, out of care that they should not be mistaken about him, was author of. And this universality of consent, so much argued, if it prove any native impressions, it will be only this, that God imprinted on the minds of all men, speaking the same language, a name for himself, but not any idea: since those people, who agreed in the name, had at the same time far different apprehensions about the thing signified.

If they say, that the variety of deities worshipped by the heathen world were but figurative ways of expressing the several attributes of that incomprehensible being, or several parts of his providence; I answer, what they might be in their original I will not here inquire; but that they were so in the thoughts of the vulgar, I think nobody will affirm. And he that will consult the voyage of the bishop of Beryte. c. 13, (not to mention other

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quainted with a greater variety of sensible objects. They retain the ideas of these objects in their memories, and they gain the skill to combine and enlarge those ideas and put them together in various ways. How by these means they come to frame in their minds the idea men have of a Deity, I shall show later.

Can it be thought that the ideas men have of God are the characters and marks of himself, engraved on their minds by his own finger? We see that in the same country, under one and the same name, men have very different, indeed often contrary and inconsistent, ideas and conceptions of him. Their agreeing in a name or sound will hardly prove an innate notion of him.

What true or even tolerable notion of a Deity could those people have who acknowledged and worshipped hundreds? Every deity they recognized beyond one was infallible evidence of their ignorance of him. It was proof that they had no true notion of God, since unity, infinity, and eternity were excluded. Add to this their crude conceptions of the gods as bodily, expressed in their images and representations of their deities. Add, too, the love affairs, marriages, couplings, lusts, quarrels, and other base qualities they attributed to their gods. Then we shall have little reason to think that the heathen world—that is,

the greatest part of mankind—had in their minds such ideas of God as he himself was the author of, out of care that they should not be mistaken about him. People argue so much from this universality of consent. But if it proves any native impressions, it will prove only this: that God imprinted a name for himself on the minds of all men who speak the same language, but not any idea. For the people who agreed in the name had at the same time very different understandings of the thing signified.

They may say that the variety of deities worshipped by the heathen world were only figurative ways of expressing the various attributes of that incomprehensible being, or various parts of his providence. I answer that I will not inquire here what they may have been in their origin; but I think nobody will claim that ordinary people thought of them that way. And anyone who consults the voyage of the Bishop of Beirut, chapter 13

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testimonies) will find that the theology of the Siamites professedly owns a plurality of gods: or as the Abbe de Choisy more judiciously remarks, in his Journal du Voyage de Siam, 107/177, it consists properly in acknowledging no God at all.

If it be said, that wise men of all nations came to have true conceptions of the unity and infinity of the Deity, I grant it. But then this,

First, Excludes universality of consent in any thing but the name; for those wise men being very few, perhaps one of a thousand, this universality is very narrow.

Secondly, It seems to me plainly to prove, that the truest and best notions men had of God, were not imprinted, but acquired by thought and meditation, and a right use of their faculties: since the wise and considerate men of the world, by a right and careful employment of their thoughts and reason, attained true notions in this, as well as other things; whilst the lazy and inconsiderate part of men, making far the greater number, took up their notions by chance, from common tradition and vulgar conceptions, without much beating their heads about them.

And if it be a reason to think the notion of God innate, because all wise men had it, virtue, too, must be innate, for that also wise men have always had.

1.4.16 This was evidently the case of all Gentilism: nor hath even among Jews, Christians, and *[Muslims]*, who acknowledge but one God, this doctrine, and the care taken in those nations to teach men to have true notions of a God, prevailed so far as to make men to have the same and the true ideas of him. How many, even among us, will be found, upon inquiry, to fancy him in the shape of a man sitting in heaven; and to have many other absurd and unfit conceptions of him?

Christians, as well as Turks, have had whole sects owning and contending earnestly for it, and that the Deity was corporeal, and of human shape: and though we find few among us who profess themselves anthropomorphites, (though some I

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(not to mention other testimonies), will find that the theology of the Siamese openly acknowledges a plurality of gods. Or rather, as the Abbé de Choisy more judiciously remarks in his *Journal du voyage de Siam*, 107/177, it consists properly in acknowledging no God at all.[39]

If it is said that wise men of all nations came to have true conceptions of the unity and infinity of the Deity, I grant it. But then this,

First, excludes universality of consent in anything but the name. Those wise men are very few, perhaps one in a thousand, so this universality is very narrow.

Second, it seems to me plainly to prove that the truest and best notions men had of God were not imprinted. They were acquired by thought and meditation and a right use of their faculties. The wise and reflective men of the world attained true notions in this, as in other things, by a right and careful use of their thoughts and reason. Meanwhile the lazy and unreflective part of mankind, by far the greater number, picked up their notions by chance from common tradition and popular conceptions, without racking their brains much about them.

And if the fact that all wise men had the notion of God is a reason to think it innate, then virtue too must be innate, for wise men have always had that as well.

This was evidently the case with all paganism. Jews, Christians, and Muslims acknowledge only one God, and those nations take care to teach men true notions of a God. Yet even among them, this doctrine and this care have not succeeded so far as to give men the same, true ideas of him. How many, even among us, will be found on inquiry to imagine him in the shape of a man sitting in heaven, and to have many other absurd and unfitting conceptions of him?

Christians as well as Turks have had whole sects that professed this and earnestly contended for it, holding that the Deity was corporeal and of human shape. We find few among us who declare themselves anthropomorphites (though I have

39 The Bishop of Beirut was Pierre Lambert de la Motte, a French missionary bishop whose journey to Siam was published in 1666. François-Timoléon de Choisy accompanied the French embassy to Siam of 1685.

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have met with that own it) yet, I believe, he that will make it his business, may find among the ignorant and uninstructed Christians, many of that opinion.

Talk but with country people, of almost any age, or young people of almost any condition; and you shall find, that though the name of God be frequently in their mouths, yet the notions they apply this name to are so odd, low, and pitiful, that nobody can imagine they were taught by a rational man, much less that they were characters written by the finger of God himself.

Nor do I see how it derogates more from the goodness of God, that he has given us minds unfurnished with these ideas of himself, than that he hath sent us into the world with bodies unclothed, and that there is no art or skill born with us: for, being fitted with faculties to attain these, it is want of industry and consideration in us, and not of bounty in him, if we have them not. It is as certain that there is a God, as that the opposite angles, made by the intersection of two strait lines, are equal.

There was never any rational creature, that set himself sincerely to examine the truth of these propositions, that could fail to assent to them; though yet it be past doubt that there are many men, who, having not applied their thoughts that way, are ignorant both of the one and the other. If any one think fit to call this, (which is the utmost of its extent) universal consent, such an one I easily allow; but such an universal consent as this, proves, not the idea of God, any more than it does the idea of such angles, innate.

1.4.17 *If the idea of God be not innate, no other can be supposed innate.*—Since, then, though the knowledge of a God be the most natural discovery of human reason, yet the idea of him is not innate, as, I think, is evident from what has been said; I imagine there will scarcely be another idea found, that can pretend to it: since, if God hath set any impression, any character, on the understanding of men, it is most reasonable to expect it should have been some clear and uniform idea of himself, as far as our weak capacities were capable to receive so incomprehensible and infinite an object.

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met some who admit it). Yet I believe that anyone who makes it his business to look may find many of that opinion among ignorant and uninstructed Christians.

Just talk with country people of almost any age, or young people of almost any station. You will find that although the name of God is often on their lips, the notions they apply this name to are so odd, low, and pitiful that nobody could imagine they were taught by a rational man, much less that they were characters written by the finger of God himself.

He has given us minds unfurnished with these ideas of himself. I do not see how this detracts any more from the goodness of God than the fact that he has sent us into the world with bodies unclothed, and that no art or skill is born with us. We are fitted with faculties to attain these things, so if we do not have them, it is a lack of industry and reflection in us, not of generosity in him. It is as certain that there is a God as that the opposite angles made by the intersection of two straight lines are equal.

There was never any rational creature who sincerely set himself to examine the truth of these propositions and could fail to assent to them. And yet it is beyond doubt that there are many men who are ignorant of both, because they have not turned their thoughts that way. If anyone thinks fit to call this universal consent (and this is the utmost extent of it), I readily allow him to. But such a universal consent as this no more proves the idea of God innate than it proves the idea of such angles innate.

If the idea of God is not innate, no other can be supposed innate.—The knowledge of a God is the most natural discovery of human reason, and yet the idea of him is not innate, as I think is evident from what has been said. I imagine, then, that scarcely any other idea will be found that can claim to be. For if God has set any impression, any character, on men's understanding, it is most reasonable to expect that it would have been some clear and uniform idea of himself, as far as our weak capacities could receive so incomprehensible and infinite an object.

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But our minds being at first void of that idea, which we are most concerned to have, it is a strong presumption against all other innate characters. I must own, as far as I can observe, I can find none, and would be glad to be informed by any other.

1.4.18 *Idea of substance not innate.*—I confess there is another idea, which would be of general use for mankind to have, as it is of general talk, as if they had it; and that is the idea of substance, which we neither have, nor can have, by sensation or reflection. If nature took care to provide us any ideas, we might well expect they should be such as by our own faculties we cannot procure to ourselves; but we see, on the contrary, that since by those ways, whereby our ideas are brought into our minds, this is not, we have no such clear idea at all, and therefore signify nothing by the word substance, but only an uncertain supposition of we know not what, i.

e. of something whereof we have no particular distinct positive idea, which we take to be the substratum, or support, of those ideas we know.

1.4.19 *No propositions can be innate, since no ideas are innate.*—Whatever then we talk of innate, either speculative or practical, principles, it may, with as much probability, be said, that a man hath 100l. sterling in his pocket, and yet denied that he hath either penny, shilling, crown, or any other coin out of which the sum is to be made up, as to think that certain propositions are innate, when the ideas about which they are, can by no means be supposed to be so.

The general reception and assent that is given doth not at all prove that the ideas expressed in them are innate: for in many cases, however the ideas came there, the assent to words, expressing the agreement or disagreement of such ideas, will necessarily follow. Every one, that hath a true idea of God and worship, will assent to this proposition, "that God is to be worshipped," when expressed in a language he understands: and every rational man, that hath not thought on it to-day, may be ready to assent to this proposition to-morrow; and yet millions of men may be well supposed to want one or both those ideas to-day.

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But our minds are at first empty of the idea we are most concerned to have, and this is a strong presumption against all other innate characters. I must admit that, as far as I can observe, I can find none, and I would be glad to be told of any by someone else.

The idea of substance is not innate.—I admit there is another idea which it would be generally useful for mankind to have, since they generally talk as if they had it. That is the idea of substance, which we neither have nor can have by sensation or reflection. If nature took care to provide us with any ideas, we might well expect them to be ones we cannot procure for ourselves by our own faculties. But we see the contrary. This idea does not come by the ways through which our ideas are brought into our minds, so we have no such clear idea at all. We therefore mean nothing by the word *substance* but an uncertain supposition of we know not what, that is,

of something of which we have no particular, distinct, positive idea, and which we take to be the substratum, or support, of those ideas we do know.

No propositions can be innate, since no ideas are innate.—So whatever we say about innate principles, whether speculative or practical, it would be just as plausible to say that a man has £100 sterling in his pocket, and yet to deny that he has any penny, shilling, crown, or other coin out of which the sum is made up, as to think that certain propositions are innate when the ideas they are about can by no means be supposed to be so.

The general acceptance and assent given to such propositions does not at all prove that the ideas expressed in them are innate. In many cases, however the ideas got there, assent to words expressing the agreement or disagreement of such ideas will necessarily follow. Everyone who has a true idea of God and of worship will assent to the proposition “that God is to be worshipped,” when it is expressed in a language he understands. And every rational man who has not thought about it today may be ready to assent to this proposition tomorrow. Yet millions of men may well be supposed to lack one or both of those ideas today.

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For if we will allow *[people from preliterate societies]* and most country people to have ideas of God and worship, (which conversation with them will not make one forward to believe,) yet I think few children can be supposed to have those ideas, which therefore they must begin to have some time or other: and then they will begin to assent to that proposition, and make very little question of it ever after.

But such an assent upon hearing, no more proves the ideas to be innate, than it does that one born blind (with cataracts, which will be couched tomorrow) had the innate ideas of the sun, or light, or saffron, or yellow; because, when his sight is cleared, he will certainly assent to this proposition, "that the sun is lucid, or that saffron is yellow;" and, therefore, if such an assent upon hearing cannot prove the ideas innate, it can much less the propositions made up of those ideas. If they have any innate ideas, I would be glad to be told what, and how many, they are.

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Suppose we grant that people from preliterate societies and most country people have ideas of God and worship (though talking with them will not make one quick to believe it). Even so, I think few children can be supposed to have those ideas, so they must begin to have them at some time or other. Then they will begin to assent to that proposition, and will hardly question it ever after.

But such an assent on hearing no more proves the ideas innate than it proves that a man born blind had innate ideas of the sun, or light, or saffron, or yellow. Say he has cataracts that will be operated on tomorrow. Once his sight is cleared, he will certainly assent to the proposition "that the sun is luminous" or "that saffron is yellow." If such an assent on hearing cannot prove the ideas innate, it can prove even less that the propositions made up of those ideas are innate. If people have any innate ideas, I would be glad to be told what they are and how many.

NO INNATE IDEAS IN THE MEMORY

Any idea in the mind but not in view must be remembered, and no one remembers an innate idea.

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1.4.20 *No innate ideas in the memory.*—To which let me add: if there be any innate ideas, any ideas in the mind, which the mind does not actually think on, they must be lodged in the memory, and from thence must be brought into view by remembrance: i. e. must be known, when they are remembered to have been perceptions in the mind before, unless remembrance can be without remembrance. For to remember is to perceive any thing with memory, or with a consciousness that it was known or perceived before: without this, whatever idea comes into the mind is new, and not remembered; this consciousness of its having been in the mind before, being that which distinguishes remembering from all other ways of thinking.

Whatever idea was never perceived by the mind was never in the mind. Whatever idea is in the mind, is either an actual perception, or else, having been an actual perception, is so in the mind, that by the memory it can be made an actual perception again. Whenever there is the actual perception of an idea without memory, the

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No innate ideas in the memory.—Let me add this. Suppose there are innate ideas, that is, ideas in the mind that the mind is not actually thinking of. Then they must be lodged in the memory, and must be brought into view from there by remembering. In other words, when they are remembered, they must be known to have been perceptions in the mind before—unless remembering can happen without remembering. For to remember is to perceive something with memory, or with a consciousness that it was known or perceived before. Without this, whatever idea comes into the mind is new and not remembered. This consciousness of its having been in the mind before is what distinguishes remembering from all other ways of thinking.

Whatever idea was never perceived by the mind was never in the mind. Whatever idea is in the mind is either an actual perception, or else it has been an actual perception and is in the mind in such a way that the memory can make it an actual perception again. Whenever there is the actual perception of an idea without memory, the idea

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idea appears perfectly new and unknown before to the understanding. Whenever the memory brings any idea into actual view, it is with a consciousness that it had been there before, and was not wholly a stranger to the mind.

Whether this be not so, I appeal to every one's observation; and then I desire an instance of an idea, pretended to be innate, which (before any impression of it, by ways hereafter to be mentioned) any one could revive and remember as an idea he had formerly known; without which consciousness of a former perception there is no remembrance; and whatever idea comes into the mind without that consciousness, is not remembered, or comes not out of the memory, nor can be said to be in the mind before that appearance: for, what is not either actually in view, or in the memory, is in the mind no way at all, and is all one as if it had never been there.

Suppose a child had the use of his eyes, till he knows and distinguishes colours; but then cataracts shut the windows, and he is forty or fifty years perfectly in the dark, and in that time perfectly loses all memory of the ideas of colours he once had. This was the case of a blind man I once talked with, who lost his sight by the small-pox when he was a child, and had no more notion of colours than one born blind. I ask, whether any one can say this man had then any ideas of colours in his mind, any more than one born blind?

And I think nobody will say that either of them had in his mind any idea of colours at all. His cataracts are couched, and then he has the ideas (which he remembers not) of colours, de novo, by his restored sight, conveyed to his mind, and that without any consciousness of a former acquaintance: and these now he can revive and call to mind in the dark. In this case all these ideas of colours, which when out of view can be revived with a consciousness of a former acquaintance, being thus in the memory, are said to be in the mind.

The use I make of this is, that whatever idea, being not actually in view, is in the mind, is there only by being in the memory; and if it be not in the memory, it is not in the mind; and if it be in the memory, it cannot by the memory be brought into actual view, without a perception that it

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appears to the understanding as perfectly new and never known before. Whenever the memory brings any idea into actual view, it does so with a consciousness that the idea had been there before and was not wholly a stranger to the mind.

I appeal to everyone's observation whether this is not so. And then I ask for an instance of an idea claimed to be innate that anyone could revive and remember as an idea he had formerly known, before any impression of it by the ways to be described later. Without this consciousness of a former perception there is no remembering. Whatever idea comes into the mind without that consciousness is not remembered, or does not come out of the memory, and cannot be said to have been in the mind before it appeared. For what is neither actually in view nor in the memory is in the mind in no way at all, and it is all the same as if it had never been there.

Suppose a child had the use of his eyes until he knows and distinguishes colors. But then cataracts shut the windows, and for forty or fifty years he is completely in the dark, and in that time he completely loses all memory of the ideas of colors he once had. This was the case of a blind man I once talked with. He lost his sight to smallpox when he was a child, and he had no more notion of colors than someone born blind. I ask whether anyone can say this man then had any ideas of colors in his mind, any more than one born blind?

And I think nobody will say that either of them had any idea of colors in his mind at all. Then his cataracts are operated on. His restored sight conveys ideas of colors (which he does not remember) to his mind anew, and without any consciousness of a former acquaintance. These ideas he can now revive and call to mind in the dark. In this case all these ideas of colors are said to be in the mind, because they are thus in the memory: when out of view, they can be revived with a consciousness of a former acquaintance.

The use I make of this is as follows. Whatever idea is in the mind without being actually in view is there only by being in the memory. If it is not in the memory, it is not in the mind. And if it is in the memory, the memory cannot bring it into actual view without a perception that it comes out of the

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comes out of the memory; which is this, that it had been known before, and is now remembered.

If, therefore, there be any innate ideas, they must be in the memory, or else no where in the mind; and if they be in the memory, they can be revived without any impression from without; and whenever they are brought into the mind, they are remembered, *i. e.* they bring with them a perception of their not being wholly new to it.

This being a constant and distinguishing difference between what is, and what is not in the memory, or in the mind; that what is not in the memory, whenever it appears there, appears perfectly new and unknown before; and what is in the memory, or in the mind, whenever it is suggested by the memory, appears not to be new, but the mind finds it in itself, and knows it was there before. By this it may be tried, whether there be any innate ideas in the mind, before impression from sensation or reflection.

I would fain meet with the man who, when he came to the use of reason, or at any other time, remembered any one of them; and to whom, after he was born, they were never new. If any one will say, there are ideas in the mind that are not in the memory, I desire him to explain himself, and make what he says intelligible.

1.4.21 *Principles not innate, because of little use, or little certainty.*—Besides what I have already said, there is another reason why I doubt that neither these nor any other principles are innate. I that am fully persuaded that the infinitely wise God made all things in perfect wisdom, cannot satisfy myself why he should be supposed to print upon the minds of men some universal principles; whereof those that are pretended innate, and concern speculation, are of no great use; and those that concern practice not self evident: and neither of them distinguishable from some other truths, not allowed to be innate.

For to what purpose should characters be graven on the mind by the finger of God, which are not clearer there than those which are afterwards introduced, or cannot be distinguished from them? If any one thinks there are such innate ideas and propositions, which by their clearness and usefulness are distinguishable from all that is adventitious in the mind, and acquired, it will not be a hard matter for him to tell us which they are,

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memory, that is, a perception that it had been known before and is now remembered.

If, therefore, there are any innate ideas, they must be in the memory, or else nowhere in the mind. And if they are in the memory, they can be revived without any impression from outside. Whenever they are brought into the mind, they are remembered, that is, they bring with them a perception that they are not wholly new to it.

For this is a constant and distinguishing difference between what is in the memory, or in the mind, and what is not. What is not in the memory, whenever it appears there, appears perfectly new and never known before. What is in the memory, or in the mind, does not appear new whenever the memory suggests it; the mind finds it in itself and knows it was there before. By this test we can try whether there are any innate ideas in the mind before any impression from sensation or reflection.

I would very much like to meet the man who remembered any one of them, when he came to the use of reason or at any other time, and to whom they were never new after he was born. If anyone will say there are ideas in the mind that are not in the memory, I ask him to explain himself and make what he says intelligible.

Principles are not innate, because they are of little use or little certainty.—Besides what I have already said, there is another reason why I doubt that either these or any other principles are innate. I am fully persuaded that the infinitely wise God made all things in perfect wisdom. So I cannot satisfy myself why he should be supposed to print certain universal principles on men's minds. Those principles claimed to be innate that concern speculation are of no great use, and those that concern practice are not self-evident. And neither kind can be distinguished from some other truths that are not allowed to be innate.

For what purpose would characters be engraved on the mind by the finger of God, if they are no clearer there than those introduced afterward, or cannot be distinguished from them? Someone may think there are innate ideas and propositions of this kind, which can be distinguished by their clearness and usefulness from everything that came into the mind from outside and was ac-

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and then every one will be a fit judge whether they be so or no; since if there be such innate ideas and impressions, plainly different from all other perceptions and knowledge, every one will find it true in himself.

Of the evidence of these supposed innate maxims I have spoken already; of their usefulness I shall have occasion to speak more hereafter.

1.4.22 *Difference of men's discoveries depends upon the different application of their faculties.*—To conclude: some ideas forwardly offer themselves to all men's understandings; some sorts of truth result from any ideas, as soon as the mind puts them into propositions; other truths require a train of ideas placed in order, a due comparing of them, and deductions made with attention, before they can be discovered and assented to.

Some of the first sort, because of their general and easy reception, have been mistaken for innate; but the truth is, ideas and notions are no more born with us than arts and sciences, though some of them indeed offer themselves to our faculties more readily than others, and therefore are more generally received; though that too be according as the organs of our bodies and powers of our minds happen to be employed: God having fitted men with faculties and means to discover, receive, and retain truths, according as they are employed.

The great difference that is to be found in the notions of mankind is from the different use they put their faculties to; whilst some (and those the most) taking things upon trust, misemploy their power of assent, by lazily enslaving their minds to the dictates and dominion of others in doctrines, which it is their duty carefully to examine, and not blindly, with an implicit faith, to swallow; others, employing their thoughts only about some few things, grow acquainted sufficiently with them, attain great degrees of knowledge in them, and are ignorant of all other, having never let their thoughts loose in the search of other inquiries.

Thus, that the three angles of a triangle are equal to two right ones, is a truth as certain as any thing can be, and I think more evident than many of those propositions that go for principles; and yet

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quired. If so, it will not be hard for him to tell us which they are, and then everyone will be a fit judge of whether they are so or not. For if there are such innate ideas and impressions, plainly different from all other perceptions and knowledge, everyone will find it true in himself.

I have already spoken of the evidence of these supposed innate maxims; I shall have occasion to say more about their usefulness later.

Differences in what men discover depend on how differently they apply their faculties.—To conclude: some ideas readily present themselves to everyone's understanding. Some sorts of truth follow from any ideas as soon as the mind puts them into propositions. Other truths cannot be discovered and assented to until a train of ideas has been placed in order, the ideas properly compared, and deductions made with attention.

Some truths of the first sort have been mistaken for innate because they are so generally and easily accepted. But the truth is that ideas and notions are no more born with us than arts and sciences are. It is true that some of them offer themselves to our faculties more readily than others, and are therefore more generally accepted. Yet even that depends on how the organs of our bodies and the powers of our minds happen to be employed. For God has fitted men with faculties and means to discover, receive, and retain truths, according to how those faculties are employed.

The great difference found in the notions of mankind comes from the different uses to which they put their faculties. Some, and these the majority, take things on trust. They misuse their power of assent by lazily enslaving their minds to the dictates and dominion of others in doctrines that it is their duty to examine carefully, and not to swallow blindly with an implicit faith. Others apply their thoughts only to a few things. They become sufficiently acquainted with these and attain great degrees of knowledge in them, but they are ignorant of everything else, having never let their thoughts range in search of other inquiries.

Take the proposition that the three angles of a triangle are equal to two right angles. It is a truth as certain as anything can be, and I think more evident than many of the propositions that pass for

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there are millions, however expert in other things, who know not this at all, because they never set their thoughts on work about such angles; and he that certainly knows this proposition, may yet be utterly ignorant of the truth of other propositions, in mathematics itself, which are as clear and evident as this, because, in his search of those mathematical truths, he stopped his thoughts short, and went not so far.

The same may happen concerning the notions we have of the being of a Deity; for though there be no truth which a man may more evidently make out to himself than the existence of a God, yet he that shall content himself with things as he finds them, in this world, as they minister to his pleasures and passions, and not make inquiry a little farther into the causes, ends, and admirable contrivances, and pursue the thoughts thereof with diligence and attention, may live long without any notion of such a being.

And if any person hath by talk put such a notion into his head, he may perhaps believe it; but if he hath never examined it, his knowledge of it will be no perfecter than his, who having been told that the three angles of a triangle are equal to two right ones, takes it upon trust, without examining the demonstration; and may yield his assent as a probable opinion, but hath no knowledge of the truth of it; which yet his faculties, if carefully employed, were able to make clear and evident to him.

But this only by the by, to show how much our knowledge depends upon the right use of those powers nature hath bestowed upon us, and how little upon such innate principles, as are in vain supposed to be in all mankind for their direction; which all men could not but know, if they were there, or else they would be there to no purpose; and which, since all men do not know, nor can distinguish from other adventitious truths, we may well conclude there are no such.

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principles. Yet there are millions, however expert in other things, who do not know it at all, because they never set their thoughts to work on such angles. And someone who knows this proposition with certainty may still be utterly ignorant of other propositions in mathematics itself, which are as clear and evident as this one. That is because in his search for mathematical truths he stopped his thoughts short and did not go so far.

The same may happen with the notions we have of the existence of a Deity. There is no truth a man can more evidently make out for himself than the existence of a God. Yet a man may content himself with things as he finds them in this world, as they serve his pleasures and passions. If he does not inquire a little further into their causes, ends, and admirable design, and pursue those thoughts with diligence and attention, he may live a long time without any notion of such a being.

And if talk has put such a notion into someone's head, he may perhaps believe it. But if he has never examined it, his knowledge of it will be no more perfect than that of a man who has been told that the three angles of a triangle are equal to two right angles and takes it on trust without examining the demonstration. Such a man may give his assent to it as a probable opinion, but he has no knowledge of its truth, even though his faculties, if carefully employed, were able to make it clear and evident to him.

But this is only in passing. It shows how much our knowledge depends on the right use of the powers nature has given us, and how little on innate principles that are vainly supposed to be in all mankind to guide them. If such principles were there, all men could not fail to know them, or else they would be there to no purpose. And since not all men know them, and they cannot be distinguished from other truths that come to us from outside, we may well conclude there are no such principles.

THINKING FOR ONESELF

Locke urges readers to seek knowledge in things themselves rather than in borrowed opinions.

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1.4.23 *Men must think and know for themselves.*—What censure, doubting thus of innate principles, may

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Men must think and know for themselves.—Some men will be inclined to call this doubting of innate

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deserve from men, who will be apt to call it pulling up the old foundations of knowledge and certainty, I cannot tell; I persuade myself, at least, that the way I have pursued, being conformable to truth, lays those foundations surer. This, I am certain, I have not made it my business either to quit or follow any authority in the ensuing discourse: truth has been my only aim, and wherever that has appeared to lead, my thoughts have impartially followed, without minding whether the footsteps of any other lay that way or no.

Not that I want a due respect to other men's opinions; but after all, the greatest reverence is due to truth: and I hope it will not be thought arrogance to say that perhaps we should make greater progress in the discovery of rational and contemplative knowledge if we sought it in the fountain, in the consideration of things themselves, and made use rather of our own thoughts than other men's to find it; for I think we may as rationally hope to see with other men's eyes, as to know by other men's understandings. So much as we ourselves consider and comprehend of truth and reason, so much we possess of real and true knowledge.

The floating of other men's opinions in our brains makes us not one jot the more knowing, though they happen to be true. What in them was science, is in us but opiniatrety; whilst we give up our assent only to reverend names, and do not, as they did, employ our own reason to understand those truths which gave them reputation. Aristotle was certainly a knowing man, but nobody ever thought him so, because he blindly embraced, and confidently vented, the opinions of another. And if the taking up of another's principles, without examining them, made not him a philosopher, I suppose it will hardly make any body else so.

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principles a pulling up of the old foundations of knowledge and certainty. What censure I may deserve from them, I cannot tell. I persuade myself, at least, that the way I have followed agrees with truth and therefore lays those foundations more securely. This much I am certain of: in the discussion that follows I have not made it my business either to abandon or to follow any authority. Truth has been my only aim. Wherever it has seemed to lead, my thoughts have followed impartially, without caring whether anyone else's footsteps lay that way or not.

Not that I lack due respect for other men's opinions; but after all, the greatest reverence is due to truth. I hope it will not be thought arrogant to say that perhaps we would make greater progress in discovering rational and contemplative knowledge if we sought it at the source, in the consideration of things themselves, and used our own thoughts rather than other men's to find it. For I think we may as reasonably hope to see with other men's eyes as to know by other men's understandings. As much of truth and reason as we ourselves consider and comprehend, so much real and true knowledge do we possess.

Having other men's opinions floating in our brains does not make us one bit more knowing, even if the opinions happen to be true. What was knowledge in them is mere opinionatedness in us, as long as we give our assent only to revered names. We do not, as they did, use our own reason to understand the truths that gave them their reputation. Aristotle was certainly a knowledgeable man, but nobody ever thought him so because he blindly embraced and confidently repeated the opinions of another. And if taking up another's principles without examining them did not make him a philosopher, I suppose it will hardly make anyone else one.

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In the sciences, every one has so much as he really knows and comprehends; what he believes only, and takes upon trust, are but shreds; which, however well in the whole piece, make no considerable addition to his stock who gathers them. Such borrowed wealth, like fairy-money, though it were gold in the hand from which he received it, will be but leaves and dust when it comes to use.

1.4.24 *Whence the opinion of innate principles.*—When men have found some general propositions, that could not be doubted of as soon as understood, it was, I know, a short and easy way to conclude them innate. This being once received, it eased the lazy from the pains of search, and stopped the inquiry of the doubtful concerning all that was once styled innate.

And it was of no small advantage to those who affected to be masters and teachers, to make this the principle of principles, "that principles must not be questioned:" for having once established this tenet, that there are innate principles, it put their followers upon a necessity of receiving some doctrines as such; which was to take them off from the use of their own reason and judgment, and put them upon believing and taking them upon trust, without farther examination: in which posture of blind credulity they might be more easily governed by, and made useful to, some sort of men, who had the skill and office to principle and guide them.

Nor is it a small power it gives one man over another, to have the authority to be the dictator of principles, and teacher of unquestionable truths; and to make a man swallow that for an innate principle which may serve to his purpose who teacheth them; whereas, had they examined the ways whereby men came to the knowledge of many universal truths, they would have found them to result in the minds of men, from the being of things themselves, when duly considered; and that they were discovered by the application of those faculties that were fitted by nature to receive and judge of them, when duly employed about them.

1.4.25 *Conclusion.*—To show how the understanding proceeds herein, is the design of the following

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In the sciences, each person has as much as he really knows and comprehends. What he merely believes and takes on trust are only scraps. However good they are as part of the whole cloth, they add little to the stock of the one who gathers them. Such borrowed wealth is like fairy money: though it was gold in the hand he received it from, it will turn out to be nothing but leaves and dust when he comes to use it.[40]

Where the opinion of innate principles comes from.—Men found certain general propositions that could not be doubted as soon as they were understood. It was, I know, a short and easy way to conclude that these were innate. Once this was accepted, it spared the lazy the trouble of searching. It also stopped the doubtful from inquiring into anything that had once been labeled innate.

And it was no small advantage to those who set themselves up as masters and teachers to make this the principle of principles: “that principles must not be questioned.” Once they had established the tenet that there are innate principles, their followers were obliged to accept certain doctrines as innate. This drew them away from the use of their own reason and judgment, and set them to believing those doctrines and taking them on trust without further examination. In this posture of blind credulity they could more easily be governed by, and made useful to, a certain sort of men who had the skill and the office to instill principles in them and guide them.

Nor is it a small power over another man to have the authority to be the dictator of principles and the teacher of unquestionable truths. Such a teacher can make a man swallow, as an innate principle, whatever serves the teacher’s own purpose. Yet had they examined the ways by which men came to know many universal truths, they would have found something different. These truths arise in men’s minds from the very being of things themselves, when duly considered. And they were discovered by applying faculties that nature fitted to receive and judge of them, when those faculties were duly employed on them.

Conclusion.—The design of the following discourse is to show how the understanding proceeds in

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discourse; which I shall proceed to, when I have first premised, that hitherto, to clear my way to those foundations which I conceive are the only true ones whereon to establish those notions we can have of our own knowledge, it hath been necessary for me to give an account of the reasons I had to doubt of innate principles.

And since the arguments which are against them do some of them rise from common received opinions, I have been forced to take several things for granted, which is hardly avoidable to any one, whose task it is to show the falsehood or improbability of any tenet: it happening in controversial discourses as it does in assaulting of towns, where, if the ground be but firm whereon the batteries are erected, there is no farther inquiry of whom it is borrowed, nor whom it belongs to, so it affords but a fit rise for the present purpose.

But in the future part of this discourse, designing to raise an edifice uniform and consistent with itself, as far as my own experience and observation will assist me, I hope to erect it on such a basis, that I shall not need to shore it up with props and buttresses, leaning on borrowed or begged foundations; or at least, if mine prove a castle in the air, I will endeavour it shall be all of a piece, and hang together. Wherein I warn the reader not to expect undeniable cogent demonstrations, unless I may be allowed the privilege, not seldom assumed by others, to take my principles for granted; and then, I doubt not, but I can demonstrate too.

All that I shall say for the principles I proceed on, is, that I can only appeal to men's own unprejudiced experience and observation, whether they be true or no; and this is enough for a man who professes no more than to lay down candidly and freely his own conjectures concerning a subject lying somewhat in the dark, without any other design than an unbiassed inquiry after truth.

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this. I will turn to that once I have first said one thing. Up to now, to clear my way to the foundations that I take to be the only true ones on which to establish whatever notions we can have of our own knowledge, I have had to give an account of my reasons for doubting innate principles.

Some of the arguments against them rise from commonly received opinions, so I have been forced to take several things for granted. That is hardly avoidable for anyone whose task is to show that a tenet is false or improbable. It happens in controversy as it does in the assault of towns. If only the ground on which the batteries are built is firm, nobody asks further whom it was borrowed from or whom it belongs to, so long as it gives a fit rise for the present purpose.

But in the rest of this discourse I mean to raise a building that is uniform and consistent with itself, as far as my own experience and observation will help me. I hope to put it on such a basis that I will not need to shore it up with props and buttresses resting on borrowed or begged foundations. Or at least, if mine proves a castle in the air, I will try to make it all of a piece, so that it hangs together. Here I warn the reader not to expect undeniable, compelling demonstrations, unless I may be allowed the privilege, which others often assume, of taking my principles for granted. Then, I don't doubt, I can demonstrate too.

All I will say for the principles I proceed on is that I can only appeal to people's own unprejudiced experience and observation as to whether they are true or not. That is enough for someone who claims no more than to set down, candidly and freely, his own conjectures on a subject that lies somewhat in the dark, with no other design than an unbiased inquiry after truth.

40 In folklore, gold given by fairies turned to leaves or dust once taken away.

Book II: Of Ideas (Chapters I–XXI)

All ideas come from sensation and reflection: simple ideas, primary and secondary qualities, the operations of the mind, space, time, number, infinity, and power, freedom and the will.

CHAPTER I. OF IDEAS IN GENERAL, AND THEIR ORIGINAL.

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2.1.1 *Idea is the object of thinking.*—Every man being conscious to himself that he thinks, and that which his mind is applied about whilst thinking, being the ideas that are there, it is past doubt, that men have in their minds several ideas, such as are those expressed by the words whiteness, hardness, sweetness, thinking, motion, man, elephant, army, drunkenness, and others. It is in the first place then to be inquired, how he comes by them. I know it is a received doctrine, that men have native ideas and original characters stamped upon their minds in their very first being.

This opinion I have, at large, examined already; and I suppose, what I have said, in the foregoing book, will be much more easily admitted, when I have shown whence the understanding may get all the ideas it has, and by what ways and degrees they may come into the mind; for which I shall appeal to every one's own observation and experience.

2.1.2 *All ideas come from sensation or reflection.*—Let us then suppose the mind to be, as we say, white paper, void of all characters, without any ideas; how comes it to be furnished? Whence comes it by that vast store which the busy and boundless fancy of man has painted on it, with an almost endless variety? Whence has it all the materials of reason and knowledge? To this I answer in one word, from experience; in that all our knowledge is founded, and from that it ultimately derives itself. Our observation employed either about external sensible objects, or about the internal operations of our minds, perceived and reflected on by ourselves, is that which supplies our understandings with all the materials of thinking.

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Idea is the object of thinking.—Every man is conscious to himself that he thinks, and what his mind is applied to while thinking is the ideas that are there. So it is beyond doubt that people have various ideas in their minds, such as those expressed by the words whiteness, hardness, sweetness, thinking, motion, man, elephant, army, drunkenness, and others. The first thing to inquire, then, is how he comes by them. I know it is a received doctrine that people have native ideas and original characters stamped on their minds in their very first being.

I have already examined this opinion at length. I suppose what I said in the previous book will be much more easily accepted once I have shown where the understanding can get all the ideas it has, and by what ways and degrees they can come into the mind. For this I will appeal to everyone's own observation and experience.

All ideas come from sensation or reflection.—Let us then suppose the mind to be, as we say, white paper, void of all characters, without any ideas. How does it come to be furnished? Where does it get that vast store which the busy and boundless fancy of man has painted on it, with an almost endless variety? Where does it get all the materials of reason and knowledge? To this I answer in one word: from experience. All our knowledge is founded on that, and from that it ultimately derives itself. Our observation, employed either about external sensible objects or about the internal operations of our minds, perceived and reflected on by ourselves, is what supplies our understandings with all the materials of thinking.

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These two are the fountains of knowledge, from whence all the ideas we have, or can naturally have, do spring.

2.1.3 *The objects of sensation one source of ideas.*—First, Our senses, conversant about particular sensible objects, do convey into the mind several distinct perceptions of things, according to those various ways wherein those objects do affect them: and thus we come by those ideas we have of yellow, white, heat, cold, soft, hard, bitter, sweet, and all those which we call sensible qualities; which, when I say the senses convey into the mind, I mean, they, from external objects, convey into the mind what produces there those perceptions. This great source of most of the ideas we have, depending wholly upon our senses, and derived by them to the understanding, I call SENSATION.

2.1.4 *The operations of our minds the other source of them.*—Secondly, The other fountain from which experience furnisheth the understanding with ideas, is the perception of the operations of our own mind within us, as it is employed about the ideas it has got, which operations, when the soul comes to reflect on and consider, do furnish the understanding with another set of ideas, which could not be had from things without; and such are perception, thinking, doubting, believing, reasoning, knowing, willing, and all the different actings of our own minds; which we being conscious of and observing in ourselves, do from these receive into our understandings as distinct ideas, as we do from bodies affecting our senses.

This source of ideas every man has wholly in himself; and though it be not sense, as having nothing to do with external objects, yet it is very like it, and might properly enough be called internal sense. But as I call the other sensation, so I call this, REFLECTION, the ideas it affords being such only as the mind gets by reflecting on its own operations within itself. By reflection, then, in the following part of this discourse, I would be understood to mean that notice which the mind takes of its own operations, and the manner of them; by reason whereof there come to be ideas of these operations in the understanding. These two, I say, viz.

external material things, as the objects of sensation and the operations of our own minds

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These two are the fountains of knowledge, from which all the ideas we have, or can naturally have, spring.

The objects of sensation one source of ideas.—First, our senses, dealing with particular sensible objects, convey into the mind various distinct perceptions of things, according to the various ways in which those objects affect them. This is how we come by the ideas we have of yellow, white, heat, cold, soft, hard, bitter, sweet, and all those we call sensible qualities. When I say the senses convey these into the mind, I mean that they convey from external objects into the mind what produces those perceptions there. This great source of most of the ideas we have depends wholly on our senses and is passed by them to the understanding. I call it *sensation*.

The operations of our minds the other source of them.—Secondly, the other fountain from which experience furnishes the understanding with ideas is the perception of the operations of our own mind within us, as it is employed about the ideas it has got. When the soul comes to reflect on and consider these operations, they furnish the understanding with another set of ideas, which could not be had from things outside. Such are perception, thinking, doubting, believing, reasoning, knowing, willing, and all the different actings of our own minds. We are conscious of these and observe them in ourselves, and so we receive them into our understandings as distinct ideas, just as we do from bodies affecting our senses.

This source of ideas every man has wholly in himself. It is not sense, since it has nothing to do with external objects, but it is very like it, and might properly enough be called internal sense. But as I call the other *sensation*, so I call this *reflection*, since the ideas it provides are only those the mind gets by reflecting on its own operations within itself. By reflection, then, in the rest of this discourse, I mean the notice the mind takes of its own operations and the manner of them, by which there come to be ideas of these operations in the understanding. These two, I say, namely

external material things, as the objects of sensation, and the operations of our own minds within,

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within, as the objects of reflection; are to me the only originals from whence all our ideas take their beginnings. The term operations here I use in a large sense, as comprehending not barely the actions of the mind about its ideas, but some sort of passions arising sometimes from them, such as is the satisfaction or uneasiness arising from any thought.

2.1.5 *All our ideas are of the one or the other of these.*—The understanding seems to me not to have the least glimmering of any ideas, which it doth not receive from one of these two. External objects furnish the mind with the ideas of sensible qualities, which are all those different perceptions they produce in us: and the mind furnishes the understanding with ideas of its own operations.

These, when we have taken a full survey of them and their several modes, combinations, and relations, we shall find to contain all our whole stock of ideas; and that we have nothing in our minds which did not come in one of these two ways.

Let any one examine his own thoughts, and thoroughly search into his understanding; and then let him tell me, whether all the original ideas he has there are any other than of the objects of his senses, or of the operations of his mind, considered as objects of his reflection; and how great a mass of knowledge soever he imagines to be lodged there, he will, upon taking a strict view, see that he has not any idea in his mind, but what one of these two have imprinted; though perhaps with infinite variety compounded and enlarged by the understanding, as we shall see hereafter.

2.1.6 *Observable in children.*—He that attentively considers the state of a child, at his first coming into the world, will have little reason to think him stored with plenty of ideas, that are to be the matter of his future knowledge: it is by degrees he comes to be furnished with them.

And though the ideas of obvious and familiar qualities imprint themselves before the memory begins to keep a register of time or order, yet it is often so late before some unusual qualities come in the way, that there are few men that cannot recollect the beginning of their acquaintance with them; and if it were worth while, no doubt a

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as the objects of reflection, are to me the only originals from which all our ideas take their beginnings. I use the term *operations* here in a broad sense. It includes not only the actions of the mind about its ideas but some sorts of passions that sometimes arise from them, such as the satisfaction or uneasiness arising from any thought.

All our ideas are of the one or the other of these.—The understanding seems to me not to have the least glimmering of any ideas that it does not receive from one of these two. External objects furnish the mind with the ideas of sensible qualities, which are all the different perceptions they produce in us. The mind furnishes the understanding with ideas of its own operations.

When we have taken a full survey of these, and of their various modes, combinations, and relations, we will find that they contain our whole stock of ideas, and that we have nothing in our minds that did not come in one of these two ways.

Let anyone examine his own thoughts and search thoroughly into his understanding. Then let him tell me whether all the original ideas he has there are of anything other than the objects of his senses or the operations of his mind, considered as objects of his reflection. However great a mass of knowledge he imagines is lodged there, on a strict look he will see that he has no idea in his mind that one of these two has not imprinted. Those ideas may, though, be compounded and enlarged by the understanding with infinite variety, as we will see later.

Observable in children.—Anyone who attentively considers the state of a child when he first comes into the world will have little reason to think him stocked with plenty of ideas to be the matter of his future knowledge. It is by degrees that he comes to be furnished with them.

The ideas of obvious and familiar qualities imprint themselves before the memory begins to keep a record of time or order. Yet some unusual qualities often come our way so late that few people cannot remember the beginning of their acquaintance with them. If it were worth the trouble, a child could no doubt be so managed as

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child might be so ordered as to have but a very few even of the ordinary ideas, till he were grown up to a man. But all that are born into the world being surrounded with bodies that perpetually and diversely affect them, variety of ideas, whether care be taken of it or no, are imprinted on the minds of children.

Light and colours are busy at hand every where, when the eye is but open; sounds and some tangible qualities fail not to solicit their proper senses, and force an entrance to the mind; but yet, I think, it will be granted easily, that if a child were kept in a place where he never saw any other but black and white till he were a man, he would have no more ideas of scarlet or green, than he that from his childhood never tasted an oyster or a pine-apple has of those particular relishes.

2.1.7 *Men are differently furnished with these, according to the different objects they converse with.*—Men then come to be furnished with fewer or more simple ideas from without, according as the objects they converse with afford greater or less variety; and from the operations of their minds within, according as they more or less reflect on them.

For though he that contemplates the operations of his mind cannot but have plain and clear ideas of them; yet, unless he turns his thoughts that way, and considers them attentively, he will no more have clear and distinct ideas of all the operations of his mind, and all that may be observed therein, than he will have all the particular ideas of any landscape, or of the parts and motions of a clock, who will not turn his eyes to it, and with attention heed all the parts of it.

The picture or clock may be so placed, that they may come in his way every day; but yet he will have but a confused idea of all the parts they are made up of, till he applies himself with attention to consider them each in particular.

2.1.8 *Ideas of reflection later, because they need attention.*—And hence we see the reason, why it is pretty late before most children get ideas of the operations of their own minds: and some have not any very clear or perfect ideas of the greatest part of them all their lives: because, though they pass there continually, yet, like floating visions, they make

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to have only a very few even of the ordinary ideas until he was grown up. But everyone born into the world is surrounded with bodies that constantly and variously affect them. So a variety of ideas is imprinted on children's minds whether anyone takes care of it or not.

Light and colors are busy on every side as soon as the eye is open, and sounds and some tangible qualities never fail to solicit their proper senses and force an entrance into the mind. Still, I think it will easily be granted that a child kept until he was grown in a place where he never saw anything but black and white would have no more ideas of scarlet or green than someone who from childhood never tasted an oyster or a pineapple has of those particular flavors.

People are differently furnished with these, according to the different objects they deal with.—People, then, come to be furnished with fewer or more simple ideas from outside according as the objects they deal with offer greater or less variety. They are furnished with ideas from the operations of their minds within according as they reflect on them more or less.

Someone who contemplates the operations of his mind cannot fail to have plain and clear ideas of them. Yet unless he turns his thoughts that way and considers them attentively, he will no more have clear and distinct ideas of all the operations of his mind, and of all that may be observed in it, than a person will have all the particular ideas of a landscape, or of the parts and motions of a clock, if he will not turn his eyes to it and attentively take note of all its parts.

The picture or the clock may be placed so that it comes in his way every day. Yet he will have only a confused idea of all the parts it is made up of until he applies himself attentively to consider each of them in particular.

Ideas of reflection later, because they need attention.—This shows us why most children are fairly late in getting ideas of the operations of their own minds. It also shows why some never have very clear or complete ideas of most of them their whole lives. These operations pass there continually, but they are like floating visions. They do not make impres-

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not deep impressions enough to leave in the mind clear, distinct, lasting ideas, till the understanding turns inward upon itself, reflects on its own operations, and makes them the objects of its own contemplation.

Children, when they come first into it, are surrounded with a world of new things, which, by a constant solicitation of their senses, draw the mind constantly to them, forward to take notice of new, and apt to be delighted with the variety of changing objects. Thus the first years are usually employed and diverted in looking abroad. Men's business in them is to acquaint themselves with what is to be found without: and so growing up in a constant attention to outward sensation, seldom make any considerable reflection on what passes within them, until they come to be of riper years; and some scarce ever at all.

2.1.9 *The soul begins to have ideas, when it begins to perceive.*—To ask at what time a man has first any ideas, is to ask when he begins to perceive? having ideas, and perception, being the same thing.

I know it is an opinion, that the soul always thinks, and that it has the actual perception of ideas in itself constantly, as long as it exists; and that actual thinking is as inseparable from the soul as actual extension is from the body; which, if true, to inquire after the beginning of a man's ideas is the same as to inquire after the beginning of his soul: for by this account soul and its ideas, as body and its extension, will begin to exist both at the same time.

2.1.10 *The soul thinks not always, for this wants proof.*—But whether the soul be supposed to exist antecedent to, or coeval with, or some time after the first rudiments of organization, or the beginnings of life in the body, I leave to be disputed by those who have better thought of that matter. I confess myself to have one of those dull souls, that doth not perceive itself always to contemplate ideas, nor can conceive it any more necessary for the soul always to think, than for the body always to move; the perception of ideas being (as I conceive) to the soul, what motion is to the body, not its essence, but one of its operations.

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sions deep enough to leave clear, distinct, lasting ideas in the mind until the understanding turns inward on itself, reflects on its own operations, and makes them the objects of its own contemplation.

Children, when they first come into the world, are surrounded with a world of new things. These constantly solicit their senses and keep drawing the mind to them, and the mind is eager to notice what is new and apt to be delighted with the variety of changing objects. So the first years are usually spent and taken up in looking outward. People's business in those years is to get acquainted with what is to be found outside. Growing up with their attention constantly on outward sensation, they seldom reflect much on what passes within them until they reach riper years, and some hardly ever do.

The soul begins to have ideas when it begins to perceive.—To ask when a man first has any ideas is to ask when he begins to perceive, for having ideas and perception are the same thing.

I know there is an opinion that the soul always thinks. On this view it has the actual perception of ideas in itself constantly, as long as it exists, and actual thinking is as inseparable from the soul as actual extension is from the body. If that were true, to inquire into the beginning of a man's ideas would be the same as inquiring into the beginning of his soul. On this account the soul and its ideas, like the body and its extension, will both begin to exist at the same time.[1]

The soul does not always think, for this lacks proof.—Whether the soul is supposed to exist before, at the same time as, or some time after the first rudiments of organization or the beginnings of life in the body, I leave to be disputed by those who have thought that matter through better. I confess that mine is one of those dull souls that does not perceive itself always contemplating ideas. Nor can I conceive it any more necessary for the soul always to think than for the body always to move. The perception of ideas is (as I conceive it) to the soul what motion is to the body: not its essence, but one of its operations.

1 The opinion is that of Descartes and his followers, for whom thought is the essence of mind as extension is the essence of body.

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And, therefore, though thinking be supposed ever so much the proper action of the soul, yet it is not necessary to suppose that it should be always thinking, always in action. That, perhaps, is the privilege of the infinite Author and Preserver of things, who never slumbers nor sleeps; but is not competent to any finite being, at least not to the soul of man. We know certainly, by experience, that we sometimes think, and thence draw this infallible consequence, that there is something in us that has a power to think: but whether that substance perpetually thinks or no, we can be no farther assured than experience informs us.

For to say that actual thinking is essential to the soul, and inseparable from it, is to beg what is in question, and not to prove it by reason; which is necessary to be done, if it be not a self-evident proposition. But whether this, "that the soul always thinks," be a self-evident proposition, that every body assents to at first hearing, I appeal to mankind.

It is doubted whether I thought at all last night or no; the question being about a matter of fact, it is begging it to bring, as a proof for it, an hypothesis, which is the very thing in dispute; by which way one may prove any thing: and it is but supposing that all watches, whilst the balance beats, think; and it is sufficiently proved, and past doubt, that my watch thought all last night.

But he that would not deceive himself, ought to build his hypothesis on matter of fact, and make it out by sensible experience, and not presume on matter of fact, because of his hypothesis: that is, because he supposes it to be so: which way of proving amounts to this, that I must necessarily think all last night, because another supposes I always think, though I myself cannot perceive that I always do so.

But men in love with their opinions may not only suppose what is in question, but allege wrong matter of fact. How else could any one make it an inference of mine, "that a thing is not, because we are not sensible of it in our sleep?" I do not say there is no soul in a man, because he is not sensible of it in his sleep: but I do say, he cannot think at any time, waking or sleeping, without being sensible of it. Our being sensible of it, is not necessary to any thing, but to our thoughts: and to them it is, and to them it will always be

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Therefore, however much thinking is supposed to be the proper action of the soul, there is no need to suppose that it is always thinking, always in action. That, perhaps, is the privilege of the infinite Author and Preserver of things, who never slumbers nor sleeps. It does not belong to any finite being, at least not to the soul of man. We know for certain, by experience, that we sometimes think. From this we draw the infallible conclusion that there is something in us that has a power to think. But whether that substance thinks perpetually or not, we can be assured no further than experience informs us.

To say that actual thinking is essential to the soul and inseparable from it is to beg the question, not to prove it by reason. And proof is required, if it is not a self-evident proposition. Whether “the soul always thinks” is a self-evident proposition that everyone assents to on first hearing, I appeal to mankind.

It is in doubt whether I thought at all last night or not. The question concerns a matter of fact, so it is begging it to bring as proof a hypothesis that is the very thing in dispute. That way one can prove anything. We need only suppose that all watches think while the balance beats, and it is sufficiently proved, beyond doubt, that my watch thought all last night.

But anyone who does not want to deceive himself ought to build his hypothesis on matter of fact and make it out by sensible experience. He should not presume a matter of fact because of his hypothesis, that is, because he supposes it to be so. That way of proving comes to this: that I must necessarily have been thinking all last night because someone else supposes I always think, though I myself cannot perceive that I always do.

People in love with their opinions may not only suppose what is in question but also allege a wrong matter of fact. How else could anyone attribute to me the inference “that a thing does not exist because we are not sensible of it in our sleep”? I do not say there is no soul in a man because he is not sensible of it in his sleep. But I do say that he cannot think at any time, waking or sleeping, without being sensible of it. Our being sensible of it is not necessary to anything except

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necessary, till we can think without being conscious of it.

2.1.11 *It is not always conscious of it.*—I grant that the soul in a waking man is never without thought, because it is the condition of being awake: but whether sleeping without dreaming be not an affection of the whole man, mind as well as body, may be worth a waking man's consideration; it being hard to conceive that any thing should think, and not be conscious of it. If the soul doth think in a sleeping man without being conscious of it, I ask, whether, during such thinking, it has any pleasure or pain, or is capable of happiness or misery? I am sure the man is not, any more than the bed or earth he lies on.

For to be happy or miserable, without being conscious of it, seems to me utterly inconsistent and impossible. Or if it be possible that the soul can, whilst the body is sleeping, have its thinking, enjoyments and concerns, its pleasure or pain apart, which the man is not conscious of, nor partakes in; it is certain that Socrates asleep, and Socrates awake, is not the same person; but his soul when he sleeps, and Socrates the man, consisting of body and soul when he is waking, are two persons; since waking Socrates has no knowledge of, or concernment for, that happiness or misery of his soul which it enjoys alone by itself whilst he sleeps, without perceiving any thing of it, any more than he has for the happiness or misery of a man in the Indies, whom he knows not.

For if we take wholly away all consciousness of our actions and sensations, especially of pleasure and pain, and the concernment that accompanies it, it will be hard to know wherein to place personal identity.

2.1.12 *If a sleeping man thinks without knowing it, the sleeping and waking man are two persons.*—"The soul, during sound sleep, thinks, say these men. Whilst it thinks and perceives, it is capable certainly of those of delight or trouble, as well as any other perceptions; and it must necessarily be conscious of its own perceptions. But it has all this apart; the sleeping man, it is plain, is conscious of nothing of all this. Let us suppose then that the soul of Castor, while he is sleeping,

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our thoughts. To them it is necessary, and to them it always will be, until we can think without being conscious of it.

It is not always conscious of it.—I grant that the soul in a waking man is never without thought, because that is the condition of being awake. But a waking man may well consider whether sleeping without dreaming is not a state of the whole man, mind as well as body, since it is hard to conceive that anything should think and not be conscious of it. If the soul does think in a sleeping man without being conscious of it, I ask whether during such thinking it has any pleasure or pain, or is capable of happiness or misery. I am sure the man is not, any more than the bed or the earth he lies on.

To be happy or miserable without being conscious of it seems to me utterly inconsistent and impossible. Suppose it is possible that the soul, while the body is sleeping, can have its thinking, enjoyments, and concerns, its pleasure or pain, separately, as things the man is not conscious of and has no share in. Then it is certain that Socrates asleep and Socrates awake are not the same person. His soul when he sleeps and Socrates the man, consisting of body and soul, when he is awake, are two persons. Waking Socrates has no knowledge of, or concern for, the happiness or misery that his soul enjoys alone by itself while he sleeps, without perceiving anything of it. He has no more of either than he has for the happiness or misery of a man in the Indies whom he does not know.

If we wholly take away all consciousness of our actions and sensations, especially of pleasure and pain and the concern that goes with it, it will be hard to know where to place personal identity.

If a sleeping man thinks without knowing it, the sleeping and the waking man are two persons.—“The soul thinks during sound sleep,” say these men. While it thinks and perceives, it is certainly capable of perceptions of delight or trouble, as well as any other perceptions, and it must necessarily be conscious of its own perceptions. But it has all this separately, and the sleeping man, it is plain, is conscious of none of it. Let us suppose, then, that the soul of Castor, while he is sleeping, withdraws

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retired from his body, which is no impossible supposition for the men I have here to do with, who so liberally allow life, without a thinking soul, to all other animals.

These men cannot then judge it impossible or a contradiction, that the body should live without the soul; nor that the soul should subsist and think, or have perception, even perception of happiness or misery, without the body. Let us then, as I say, suppose the soul of Castor separated, during his sleep, from his body, to think apart. Let us suppose, too, that it chooses for its scene of thinking, the body of another man, *v. g.* Pollux, who is sleeping without a soul: for if Castor's soul can think, whilst Castor is asleep, what Castor is never conscious of, it is no matter what place he chooses to think in.

We have here, then, the bodies of two men with only one soul between them, which we will suppose to sleep and wake by turns; and the soul still thinking in the waking man, whereof the sleeping man is never conscious, has never the least perception. I ask, then, whether Castor and Pollux, thus, with only one soul between them, which thinks and perceives in one what the other is never conscious of, nor is concerned for, are not two distinct persons, as Castor and Hercules, or as Socrates and Plato were? And whether one of them might not be very happy, and the other very miserable?

Just by the same reason they make the soul and the man two persons, who make the soul think apart what the man is not conscious of. For I suppose nobody will make identity of person to consist in the soul's being united to the very same numerical particles of matter; for if that be necessary to identity, it will be impossible in that constant flux of the particles of our bodies, that any man should be the same person two days, or two moments, together.

2.1.13 *Impossible to convince those that sleep without dreaming, that they think.*—Thus, methinks, every drowsy nod shakes their doctrine, who teach, that the soul is always thinking. Those, at least, who do at any time sleep without dreaming, can never be convinced that their thoughts are sometimes

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from his body. That is no impossible supposition for the men I am dealing with here, who so liberally grant life without a thinking soul to all other animals.[2]

These men, then, cannot judge it impossible or a contradiction that the body should live without the soul. Nor can they judge it impossible that the soul should subsist and think, or have perception, even perception of happiness or misery, without the body. So let us, as I say, suppose the soul of Castor separated from his body during his sleep, to think apart. Let us suppose, too, that it chooses as its scene of thinking the body of another man, Pollux for example, who is sleeping without a soul. If Castor's soul can think while Castor is asleep, in a way Castor is never conscious of, it does not matter what place it chooses to think in.

Here, then, we have the bodies of two men with only one soul between them, which we will suppose to sleep and wake by turns. The soul is always thinking in the waking man, and the sleeping man is never conscious of it and has not the least perception of it. I ask, then, whether Castor and Pollux, having only one soul between them in this way, are not two distinct persons, as much as Castor and Hercules were, or Socrates and Plato. That soul thinks and perceives in one of them what the other is never conscious of or concerned for. And might not one of them be very happy and the other very miserable?

By just the same reasoning, those who make the soul think separately what the man is not conscious of make the soul and the man two persons. I suppose nobody will make identity of person consist in the soul's being united to the very same numerical particles of matter. If that were necessary to identity, then, in the constant flux of the particles of our bodies, it would be impossible for any man to be the same person for two days, or two moments, together.

Impossible to convince those who sleep without dreaming that they think.—So, it seems to me, every drowsy nod shakes the doctrine of those who teach that the soul is always thinking. Those, at least, who ever sleep without dreaming can never be convinced that their thoughts are sometimes

2 Castor and Pollux are the twin brothers of Greek myth.

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for four hours busy without their knowing of it; and if they are taken in the very act, waked in the middle of that sleeping contemplation, can give no manner of account of it.

2.1.14 *That men dream without remembering it, in vain urged.*—It will perhaps be said, "that the soul thinks even in the soundest sleep, but the memory retains it not." That the soul in a sleeping man should be this moment busy a thinking, and the next moment in a waking man, not remember nor be able to recollect one jot of all those thoughts, is very hard to be conceived, and would need some better proof than bare assertion to make it be believed.

For who can, without any more ado, but being barely told so, imagine that the greatest part of men do, during all their lives, for several hours every day, think of something, which if they were asked, even in the middle of these thoughts, they could remember nothing at all of? Most men, I think, pass a great part of their sleep without dreaming. I once knew a man that was bred a scholar, and had no bad memory, who told me he had never dreamed in his life till he had that fever he was then newly recovered of, which was about the five or six and twentieth year of his age.

I suppose the world affords more such instances: at least every one's acquaintance will furnish him with examples enough of such as pass most of their nights without dreaming.

2.1.15 *Upon this hypothesis the thoughts of a sleeping man ought to be most rational.*—To think often, and never to retain it so much as one moment, is a very useless sort of thinking; and the soul, in such a state of thinking, does very little, if at all, excel that of a looking-glass, which constantly receives a variety of images, or ideas, but retains none; they disappear and vanish, and there remain no footsteps of them; the looking-glass is never the better for such ideas, nor the soul for such thoughts.

Perhaps it will be said, "that in a waking man the materials of the body are employed and made use of in thinking; and that the memory of thoughts is retained by the impressions that are made on the brain, and the traces there left after such thinking; but that in the thinking of the soul, which is not perceived in a sleeping man, there

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busy for four hours without their knowing it. If they are caught in the very act, woken in the middle of that sleeping contemplation, they can give no account of it at all.

That men dream without remembering it, urged in vain.—It will perhaps be said "that the soul thinks even in the soundest sleep, but the memory does not retain it." The soul in a sleeping man would then be busy thinking one moment. The next moment, in a waking man, it would not remember or be able to recall a single scrap of all those thoughts. That is very hard to conceive, and it would need some better proof than bare assertion to make it believed.

Who can imagine, without more ado and just on being told so, that most people, all their lives, for several hours every day, think of something they could remember nothing at all of if they were asked, even in the middle of these thoughts? Most people, I think, pass a great part of their sleep without dreaming. I once knew a man who had been educated as a scholar and had no bad memory. He told me he had never dreamed in his life until he had the fever he had then just recovered from, which was around his twenty-fifth or twenty-sixth year.

I suppose the world offers more such cases. At least everyone's acquaintance will supply him with enough examples of people who pass most of their nights without dreaming.

On this hypothesis the thoughts of a sleeping man ought to be most rational.—To think often and never retain it even for a moment is a very useless sort of thinking. In such a state of thinking the soul does very little better, if at all, than a mirror, which constantly receives a variety of images, or ideas, but retains none. They disappear and vanish, and no traces of them remain. The mirror is never the better for such ideas, nor the soul for such thoughts.

Perhaps it will be said "that in a waking man the materials of the body are employed and used in thinking, and that the memory of thoughts is retained by the impressions made on the brain and the traces left there after such thinking. But in the thinking of the soul that is not perceived in a sleeping man, the soul thinks apart, and, making

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the soul thinks apart, and making no use of the organs of the body, leaves no impression on it, and consequently no memory of such thoughts." Not to mention again the absurdity of two distinct persons, which follows from this supposition, I answer farther, that whatever ideas the mind can receive and contemplate without the help of the body, it is reasonable to conclude it can retain without the help of the body too; or else the soul, or any separate spirit, will have but little advantage by thinking.

If it has no memory of its own thoughts; if it cannot lay them up for its own use, and be able to recall them upon occasion; if it cannot reflect upon what is past, and make use of its former experiences, reasonings, and contemplations, to what purpose does it think! They, who make the soul a thinking thing, at this rate, will not make it a much more noble being, than those do, whom they condemn for allowing it to be nothing but the subtilest parts of matter.

Characters drawn on dust, that the first breath of wind effaces; or impressions made on a heap of atoms, or animal spirits, are altogether as useful, and render the subject as noble, as the thoughts of a soul that perish in thinking; that once out of sight are gone for ever, and leave no memory of themselves behind them.

Nature never makes excellent things for mean or no uses: and it is hardly to be conceived, that our infinitely wise Creator should make so admirable a faculty as the power of thinking, that faculty which comes nearest the excellency of his own incomprehensible being, to be so idly and uselessly employed, at least a fourth part of its time here, as to think constantly, without remembering any of those thoughts, without doing any good to itself or others, or being any way useful to any other part of the creation. If we will examine it, we shall not find, I suppose, the motion of dull and senseless matter, any where in the universe, made so little use of, and so wholly thrown away.

2.1.16 *On this hypothesis the soul must have ideas not derived from sensation or reflection, of which there is no appearance.*—It is true, we have sometimes instances of perception whilst we are asleep, and retain the memory of those thoughts; but how extravagant and incoherent for the most part they

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no use of the organs of the body, leaves no impression on it, and consequently no memory of such thoughts." I will not mention again the absurdity of two distinct persons that follows from this supposition. I answer further that whatever ideas the mind can receive and contemplate without the help of the body, it is reasonable to conclude it can also retain without the help of the body. Otherwise the soul, or any separate spirit, will gain little by thinking.

Suppose it has no memory of its own thoughts. Suppose it cannot store them up for its own use and recall them when needed, and cannot reflect on what is past and make use of its former experiences, reasonings, and contemplations. Then to what purpose does it think? Those who make the soul a thinking thing on these terms will not make it a much nobler being than those they condemn make it, who hold it to be nothing but the subtlest parts of matter.

Characters drawn in dust, which the first breath of wind wipes out, or impressions made on a heap of atoms or animal spirits, are every bit as useful as the thoughts of such a soul, and they make the subject just as noble. Those thoughts perish in the thinking. Once out of sight they are gone forever and leave no memory of themselves behind.

Nature never makes excellent things for mean uses or for none. Our infinitely wise Creator made so admirable a faculty as the power of thinking, the faculty that comes nearest to the excellence of his own incomprehensible being. It is hardly conceivable that he should have it employed so idly and uselessly, for at least a fourth part of its time here. It would think constantly without remembering any of those thoughts, without doing any good to itself or others, and without being in any way useful to any other part of creation. If we examine it, we will not find, I suppose, the motion of dull and senseless matter anywhere in the universe put to so little use and so wholly thrown away.

On this hypothesis the soul must have ideas not derived from sensation or reflection, of which there is no sign.—It is true that we sometimes have instances of perception while we are asleep and retain the memory of those thoughts. But those who are ac-

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are, how little conformable to the perfection and order of a rational being, those who are acquainted with dreams need not be told. This I would willingly be satisfied in, whether the soul, when it thinks thus apart, and as it were separate from the body, acts less rationally than when conjointly with it or no.

If its separate thoughts be less rational, then these men must say, that the soul owes the perfection of rational thinking to the body: if it does not, it is a wonder that our dreams should be, for the most part, so frivolous and irrational; and that the soul should retain none of its more rational soliloquies and meditations.

2.1.17 *If I think when I know it not, nobody else can know it.* —Those who so confidently tell us that "the soul always actually thinks," I would they would also tell us what those ideas are that are in the soul of a child before, or just at the union with the body, before it hath received any by sensation. The dreams of sleeping men are, as I take it, all made up of the waking man's ideas, though for the most part, oddly put together.

It is strange, if the soul has ideas of its own, that it derived not from sensation or reflection (as it must have if it thought before it received any impressions from the body) that it should never in its private thinking (so private that the man himself perceives it not) retain any of them, the very moment it wakes out of them, and then make the man glad with new discoveries. Who can find it reasonable that the soul should, in its retirement, during sleep, have so many hours' thoughts, and yet

never light on any one of those ideas it borrowed not from sensation or reflection; or, at least, preserve the memory of none but such, which being occasioned from the body, must needs be less natural to a spirit? It is strange the soul should never once in a man's whole life recall over any of its pure native thoughts, and those ideas it had before it borrowed any thing from the body; never bring into the waking man's view any other ideas but what have a tang of the cask, and manifestly derive their original from that union.

If it always thinks, and so had ideas before it was united, or before it received any from the body, it is not to be supposed but that during sleep it

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quainted with dreams need not be told how extravagant and incoherent they mostly are, and how little suited to the perfection and order of a rational being. What I would gladly have settled is this. When the soul thinks apart like this, as though separate from the body, does it act less rationally than when joined with it, or not?

If its separate thoughts are less rational, then these men must say that the soul owes the perfection of rational thinking to the body. If they are not, it is a wonder that our dreams should mostly be so frivolous and irrational, and that the soul should retain none of its more rational soliloquies and meditations.

If I think when I do not know it, nobody else can know it.—Some people tell us so confidently that “the soul always actually thinks.” I wish they would also tell us what ideas are in the soul of a child before, or just at, its union with the body, before it has received any by sensation. The dreams of sleeping men are, as I understand it, all made up of the waking man’s ideas, though mostly put together oddly.

Suppose the soul has ideas of its own, not derived from sensation or reflection (as it must, if it thought before it received any impressions from the body). Then it is strange that in its private thinking (so private that the man himself does not perceive it) it should never retain any of them at the very moment it wakes out of them, and so gladden the man with new discoveries. Who can think it reasonable that the soul should, in its retirement during sleep, have so many hours’ worth of thoughts, and yet

never hit on any one of those ideas it did not borrow from sensation or reflection? Or that it should at least preserve the memory of none but those which, being occasioned by the body, must be less natural to a spirit? It is strange that the soul should never once in a man’s whole life recall any of its pure native thoughts, the ideas it had before it borrowed anything from the body. It is strange that it should never bring into the waking man’s view any ideas but those that have a tang of the cask and plainly derive their origin from that union.

If it always thinks, and so had ideas before it was united with the body, or before it received any from it, we must suppose that during sleep it re-

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recollects its native ideas; and during that retirement from communicating with the body, whilst it thinks by itself, the ideas it is busied about should be, sometimes at least, those more natural and congenial ones which it had in itself, underived from the body, or its own operations about them; which, since the waking man never remembers, we must from this hypothesis conclude, either that the soul remembers something that the man does not, or else that memory belongs only to such ideas as are derived from the body, or the mind's operations about them.

2.1.18 *How knows any one that the soul always thinks? for if it be not a self-evident proposition, it needs proof.*—I would be glad also to learn from these men, who so confidently pronounce that the human soul, or, which is all one, that a man always thinks, how they come to know it? nay, how they come to know that they themselves think, when they themselves do not perceive it? This, I am afraid, is to be sure without proofs; and to know, without perceiving: it is, I suspect, a confused notion, taken up to serve an hypothesis; and none of those clear truths, that either their own evidence forces us to admit, or common experience makes it impudence to deny.

For the most that can be said of it is, that it is possible the soul may always think, but not always retain it in memory: and I say, it is as possible that the soul may not always think, and much more probable that it should sometimes not think, than that it should often think, and that a long while together, and not be conscious to itself the next moment after that it had thought.

2.1.19 *That a man should be busy in thinking, and yet not retain it the next moment, very improbable.*—To suppose the soul to think, and the man not to perceive it, is, as has been said, to make two persons in one man; and if one considers well these men's way of speaking, one should be led into a suspicion that they do so. For they who tell us that the soul always thinks, do never, that I remember, say that a man always thinks. Can the soul think, and not the man? or a man think, and not be conscious of it? This, perhaps, would be suspected of jargon in others.

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calls its native ideas. During that retirement from communication with the body, while it thinks by itself, the ideas it is busy with should be, at least sometimes, those more natural and congenial ones that it had in itself, underived from the body or from its own operations about such ideas. The waking man never remembers these. So we must conclude from this hypothesis either that the soul remembers something the man does not, or else that memory belongs only to ideas derived from the body, or to the mind's operations about them.

How does anyone know that the soul always thinks? For if it is not a self-evident proposition, it needs proof. —These men pronounce so confidently that the human soul always thinks, or, what is the same thing, that a man always thinks. I would also be glad to learn from them how they come to know it. Indeed, how do they come to know that they themselves think, when they themselves do not perceive it? This, I am afraid, is being sure without proofs and knowing without perceiving. It is, I suspect, a confused notion taken up to serve a hypothesis. It is not one of those clear truths that either their own evidence forces us to admit or common experience makes it impudent to deny.

The most that can be said for it is that it is possible the soul may always think but not always retain it in memory. And I say it is just as possible that the soul may not always think. It is much more probable that it should sometimes not think than that it should often think, and for a long while at a stretch, and not be conscious to itself the very next moment that it had been thinking.

That a man should be busy thinking and yet not retain it the next moment, very improbable.—To suppose the soul thinks and the man does not perceive it is, as has been said, to make two persons in one man. If one considers these men's way of speaking carefully, one might be led to suspect that they do so. Those who tell us that the soul always thinks never, as far as I remember, say that a man always thinks. Can the soul think and not the man? Or can a man think and not be conscious of it? This, perhaps, would be suspected of being jargon in anyone else.

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If they say the man thinks always, but is not always conscious of it, they may as well say his body is extended without having parts: for it is altogether as intelligible to say, that a body is extended without parts, as that any thing thinks without being conscious of it, or perceiving that it does so. They who talk thus may, with as much reason, if it be necessary to their hypothesis, say, that a man is always hungry, but that he does not always feel it: whereas hunger consists in that very sensation, as thinking consists in being conscious that one thinks. If they say that a man is always conscious to himself of thinking; I ask how they know it.

Consciousness is the perception of what passes in a man's own mind. Can another man perceive that I am conscious of any thing, when I perceive it not myself? No man's knowledge here can go beyond his experience. Wake a man out of a sound sleep, and ask him what he was that moment thinking of? If he himself be conscious of nothing he then thought on, he must be a notable diviner of thoughts that can assure him that he was thinking; may he not with more reason assure him he was not asleep?

This is something beyond philosophy; and it cannot be less than revelation, that discovers to another thoughts in my mind, when I can find none there myself: and they must needs have a penetrating sight, who can certainly see that I think, when I cannot perceive it myself, and when I declare that I do not: and yet can see that dogs or elephants do not think, when they give all the demonstration of it imaginable, except only telling us that they do so. This some may suspect to be a step beyond the Rosicrucians; it seeming easier to make one's self invisible to others, than to make another's thoughts visible to me, which are not visible to himself.

But it is but defining the soul to be "a substance that always thinks," and the business is done. If such a definition be of any authority, I know not what it can serve for, but to make many men suspect that they have no souls at all, since they find a good part of their lives pass away without thinking. For no definitions that I know, no suppositions of any sect, are of force enough to

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If they say the man always thinks but is not always conscious of it, they might as well say his body is extended without having parts. It is every bit as intelligible to say that a body is extended without parts as that anything thinks without being conscious of it, or perceiving that it does. Those who talk this way could say, with as much reason, if their hypothesis required it, that a man is always hungry but does not always feel it. But hunger consists in that very sensation, as thinking consists in being conscious that one thinks. If they say that a man is always conscious to himself of thinking, I ask how they know it.

Consciousness is the perception of what passes in a man's own mind. Can another man perceive that I am conscious of anything when I do not perceive it myself? No man's knowledge here can go beyond his experience. Wake a man out of a sound sleep and ask him what he was thinking of at that moment. If he himself is conscious of nothing he was then thinking of, it would take a remarkable diviner of thoughts to assure him that he was thinking. Might such a diviner not with more reason assure him that he was not asleep?

This is something beyond philosophy. It can be nothing less than revelation that discloses to another person thoughts in my mind when I can find none there myself. They must have very penetrating sight who can see for certain that I think when I cannot perceive it myself, and when I declare that I do not. Yet the same people can see that dogs or elephants do not think, when these give every demonstration of it imaginable except telling us that they do. Some may suspect this to be a step beyond the Rosicrucians. It seems easier to make oneself invisible to others than to make another's thoughts visible to me when they are not visible to himself.[3]

But one need only define the soul as "a substance that always thinks," and the job is done. If such a definition has any authority, I do not know what it can serve for except to make many people suspect that they have no souls at all, since they find a good part of their lives passing away without thinking. No definitions that I know of, and no

3 The Rosicrucians were a secret brotherhood announced in German pamphlets of the early 1600s, popularly credited with occult powers such as making themselves invisible.

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destroy constant experience; and perhaps it is the affectation of knowing beyond what we perceive, that makes so much useless dispute and noise in the world.

2.1.20 *No ideas but from sensation or reflection evident, if we observe children.*—I see no reason, therefore, to believe that the soul thinks before the senses have furnished it with ideas to think on; and as those are increased and retained, so it comes, by exercise, to improve its faculty of thinking, in the several parts of it, as well as afterward, by compounding those ideas, and reflecting on its own operations; it increases its stock as well as facility in remembering, imagining, reasoning, and other modes of thinking.

2.1.21 He that will suffer himself to be informed by observation and experience, and not make his own hypothesis the rule of nature, will find few signs of a soul accustomed to much thinking in a new-born child, and much fewer of any reasoning at all. And yet it is hard to imagine, that the rational soul should think so much, and not reason at all.

And he that will consider that infants newly come into the world, spend the greatest part of their time in sleep, and are seldom awake, but when either hunger calls for the teat, or some pain (the most importunate of all sensations), or some other violent impression upon the body, forces the mind to perceive and attend to it: he, I say, who considers this, will, perhaps, find reason to imagine, that a foetus in the mother's womb differs not much from the state of a vegetable; but passes the greatest part of its time without perception or thought, doing very little in a place where it needs not seek for food, and is surrounded with liquor, always equally soft, and near of the same temper; where the eyes have no light, and the ears, so shut up, are not very susceptible of sounds; and where there is little or no variety, or change of objects to move the senses.

2.1.22 Follow a child from its birth, and observe the alterations that time makes, and you shall find, as the mind by the senses comes more and more to be furnished with ideas, it comes to be more and more awake; thinks more, the more it has matter

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suppositions of any sect, are strong enough to overturn constant experience. Perhaps it is the pretense of knowing beyond what we perceive that makes so much useless dispute and noise in the world.

No ideas but from sensation or reflection: evident if we observe children.—I see no reason, therefore, to believe that the soul thinks before the senses have furnished it with ideas to think about. As those ideas increase and are retained, the soul comes, by exercise, to improve its faculty of thinking in its various parts. Afterward, by compounding those ideas and reflecting on its own operations, it increases both its stock and its facility in remembering, imagining, reasoning, and other modes of thinking.

Anyone who will let himself be informed by observation and experience, and not make his own hypothesis the rule of nature, will find few signs in a newborn child of a soul accustomed to much thinking, and far fewer of any reasoning at all. Yet it is hard to imagine that the rational soul should think so much and not reason at all.

Consider that infants newly come into the world spend most of their time asleep. They are seldom awake except when hunger calls for the breast, or some pain (the most insistent of all sensations) or some other violent impression on the body forces the mind to perceive and attend to it. Anyone, I say, who considers this will perhaps find reason to think that a fetus in the mother's womb does not differ much from the state of a plant. It passes most of its time without perception or thought. It does very little in a place where it has no need to look for food and is surrounded with fluid that is always equally soft and of nearly the same temperature. There the eyes have no light, and the ears, shut up as they are, are not very open to sounds, and there is little or no variety or change of objects to move the senses.

Follow a child from its birth and observe the changes time makes. You will find that as the mind comes, through the senses, to be more and more furnished with ideas, it becomes more and more awake. It thinks more, the more it has to think

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to think on. After some time it begins to know the objects, which, being most familiar with it, have made lasting impressions. Thus it comes by degrees to know the persons it daily converses with, and distinguish them from strangers; which are instances and effects of its coming to retain and distinguish the ideas the senses convey to it.

And so we may observe how the mind, by degrees, improves in these, and advances to the exercise of those other faculties of enlarging, compounding, and abstracting its ideas, and of reasoning about them, and reflecting upon all these, of which I shall have occasion to speak more hereafter.

2.1.23 If it shall be demanded, then, when a man begins to have any ideas? I think the true answer is, when he first has any sensation. For since there appear not to be any ideas in the mind, before the senses have conveyed any in, I conceive that ideas in the understanding are coeval with sensation; which is such an impression or motion, made in some part of the body, as produces some perception in the understanding. It is about these impressions made on our senses by outward objects, that the mind seems first to employ itself in such operations as we call perception, remembering, consideration, reasoning, &c.

2.1.24 *The original of all our knowledge.*—In time the mind comes to reflect on its own operations, about the ideas got by sensation, and thereby stores itself with a new set of ideas, which I call ideas of reflection. These are the impressions that are made on our senses by outward objects, that are extrinsical to the mind, and its own operations, proceeding from powers intrinsical and proper to itself: which, when reflected on by itself, becoming also objects of its contemplation, are, as I have said, the original of all knowledge.

Thus, the first capacity of human intellect is that the mind is fitted to receive the impressions made on it, either through the senses, by outward objects, or by its own operations, when it reflects on them. This is the first step a man makes towards the discovery of any thing, and the ground work whereon to build all those notions which ever he shall have naturally in this world.

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about. After a while it begins to know the objects that, being most familiar to it, have made lasting impressions. In this way it comes by degrees to know the people it deals with daily and to distinguish them from strangers. These are instances and effects of its coming to retain and distinguish the ideas the senses convey to it.

And so we may observe how the mind improves in these by degrees. It advances to the exercise of those other faculties, of enlarging, compounding, and abstracting its ideas, of reasoning about them, and of reflecting on all these. I will have occasion to say more about them later.

If someone asks, then, when a man begins to have any ideas, I think the true answer is: when he first has any sensation. There do not appear to be any ideas in the mind before the senses have conveyed some in, so I take it that ideas in the understanding begin together with sensation. Sensation is an impression or motion, made in some part of the body, that produces some perception in the understanding. It is about these impressions made on our senses by outward objects that the mind seems first to busy itself, in the operations we call perception, remembering, consideration, reasoning, and so on.

The origin of all our knowledge.—In time the mind comes to reflect on its own operations concerning the ideas it has got by sensation. In this way it stocks itself with a new set of ideas, which I call ideas of reflection. These two are, as I have said, the origin of all knowledge. The first is the impressions made on our senses by outward objects, which are external to the mind. The second is the mind's own operations, which proceed from powers internal and proper to it, and which also become objects of its contemplation when it reflects on them.

So the first capacity of the human intellect is this: the mind is fitted to receive the impressions made on it, either by outward objects through the senses, or by its own operations when it reflects on them. This is the first step a man takes toward discovering anything. It is the groundwork on which to build all the notions he will ever naturally have in this world.

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All those sublime thoughts which tower above the clouds, and reach as high as heaven itself, take their rise and footing here in all that good extent wherein the mind wanders, in those remote speculations it may seem to be elevated with, it stirs not one jot beyond those ideas which sense or reflection have offered for its contemplation.

2.1.25 *In the reception of simple ideas, the understanding is for the most part passive.*—In this part the understanding is merely passive; and whether or no it will have these beginnings, and, as it were, materials of knowledge, is not in its own power. For the objects of our senses do, many of them, obtrude their particular ideas upon our minds, whether we will or no: and the operations of our minds will not let us be without, at least, some obscure notions of them. No man can be wholly ignorant of what he does when he thinks.

These simple ideas, when offered to the mind, the understanding can no more refuse to have, nor alter, when they are imprinted, nor blot them out, and make new ones itself, than a mirror can refuse, alter, or obliterate the images or ideas which the objects set before it do therein produce. As the bodies that surround us do diversely affect our organs, the mind is forced to receive the impressions, and cannot avoid the perception of those ideas that are annexed to them.

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All those sublime thoughts that tower above the clouds and reach as high as heaven itself take their rise and footing here. The mind wanders over a great range, and may seem to be lifted up by its remote speculations. Yet in all of it the mind does not stir one jot beyond the ideas that sense or reflection have offered for its contemplation.

In receiving simple ideas, the understanding is for the most part passive.—In this part the understanding is merely passive. Whether or not it will have these beginnings, these materials of knowledge as it were, is not in its own power. For many of the objects of our senses force their particular ideas on our minds whether we want them or not. And the operations of our minds will not let us be without at least some obscure notions of them. No man can be wholly ignorant of what he does when he thinks.

When these simple ideas are offered to the mind, the understanding cannot refuse to have them. Once they are imprinted, it cannot alter them, or blot them out and make new ones itself. It can no more do so than a mirror can refuse, alter, or erase the images or ideas produced in it by the objects set before it. As the bodies around us affect our organs in various ways, the mind is forced to receive the impressions. It cannot avoid perceiving the ideas that are attached to them.

SIMPLE IDEAS

Simple ideas enter the mind unmixed, and the mind can neither invent nor destroy them.

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2.2.1 *Uncompounded appearances.*—The better to understand the nature, manner, and extent of our knowledge, one thing is carefully to be observed concerning the ideas we have: and that is, that some of them are simple, and some complex.

Though the qualities that affect our senses are, in the things themselves, so united and blended, that there is no separation, no distance between them; yet it is plain the ideas they produce in the mind enter by the senses simple and unmixed: for though the sight and touch often take in from the same object, at the same time, different ideas, as a man sees at once motion and colour, the hand feels softness and warmth in the same piece of wax; yet the simple ideas, thus united in the same

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Uncompounded appearances.—To understand better the nature, manner, and extent of our knowledge, one thing must be carefully noted about the ideas we have: some of them are simple, and some complex.

In the things themselves, the qualities that affect our senses are so united and blended that there is no separation, no distance between them. Yet it is plain that the ideas they produce in the mind enter by the senses simple and unmixed. Sight and touch often take in different ideas from the same object at the same time: a man sees motion and color at once, and the hand feels softness and warmth in the same piece of wax. Yet the simple

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subject, are as perfectly distinct as those that come in by different senses: the coldness and hardness which a man feels in a piece of ice being as distinct ideas in the mind as the smell and whiteness of a lily; or as the taste of sugar and smell of a rose.

And there is nothing can be plainer to a man than the clear and distinct perceptions he has of those simple ideas; which, being each in itself uncompounded, contains in it nothing but one uniform appearance or conception in the mind, and is not distinguishable into different ideas.

2.2.2 *The mind can neither make nor destroy them.*—These simple ideas, the materials of all our knowledge, are suggested and furnished to the mind only by those two ways above mentioned, viz. sensation and reflection. When the understanding is once stored with these simple

ideas, it has the power to repeat, compare, and unite them, even to an almost infinite variety; and so can make at pleasure new complex ideas. But it is not in the power of the most exalted wit or enlarged understanding, by any quickness or variety of thought, to invent or frame one new simple idea in the mind, not taken in by the ways aforementioned: nor can any force of the understanding destroy those that are there.

The dominion of man in this little world of his own understanding, being much-what the same as it is in the great world of visible things; wherein his power, however managed by art and skill, reaches no farther than to compound and divide the materials that are made to his hand; but can do nothing towards the making the least particle of new matter, or destroying one atom of what is already in being. The same inability will every one find in himself, who shall go about to fashion in his understanding any simple idea, not received in by his senses from external objects, or by reflection from the operations of his own mind about them.

I would have any one try to fancy any taste which had never affected his palate; or frame the idea of a scent he had never smelt: and when he can do this, I will also conclude that a blind man hath ideas of colours, and a deaf man true distinct notions of sounds.

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ideas united in the same subject are as perfectly distinct as those that come in by different senses. The coldness and hardness a man feels in a piece of ice are as distinct ideas in the mind as the smell and whiteness of a lily, or as the taste of sugar and the smell of a rose.

And nothing can be plainer to a man than the clear and distinct perceptions he has of those simple ideas. Each of them is uncompounded in itself. It contains nothing but one uniform appearance or conception in the mind, and cannot be divided into different ideas.

The mind can neither make nor destroy them.—These simple ideas, the materials of all our knowledge, are suggested and supplied to the mind only by the two ways mentioned above, namely sensation and reflection. Once the understanding is stocked with these simple

ideas, it has the power to repeat, compare, and unite them, even into an almost infinite variety, and so it can make new complex ideas at will. But not even the loftiest wit or the most enlarged understanding can invent or frame one new simple idea in the mind that was not taken in by the ways just mentioned. No quickness or variety of thought will do it. Nor can any force of the understanding destroy the simple ideas that are there.

Man's dominion in this little world of his own understanding is much the same as it is in the great world of visible things. There, however much art and skill he uses, his power reaches no further than compounding and dividing the materials put into his hands. He can do nothing toward making the least particle of new matter, or destroying one atom of what already exists. Anyone who tries to fashion a new simple idea in his understanding will find the same inability in himself. He can have no simple idea that he has not received through his senses from external objects, or by reflection from the operations of his own mind on them.

I would have anyone try to imagine a taste that has never affected his palate, or frame the idea of a scent he has never smelled. When he can do this, I will also conclude that a blind man has ideas of colors, and a deaf man true, distinct notions of sounds.

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2.2.3 This is the reason why, though we cannot believe it impossible to God to make a creature with other organs, and more ways to convey into the understanding the notice of those corporeal things than those five, as they are usually counted, which he has given to man: yet I think it is not possible for any one to imagine any other qualities in bodies, howsoever constituted, whereby they can be taken notice of, besides sounds, tastes, smells, visible and tangible qualities.

And had mankind been made but with four senses, the qualities then which are the object of the fifth sense, had been as far from our notice, imagination, and conception, as now any belonging to a sixth, seventh, or eighth sense, can possibly be: which, whether yet some other creatures, in some other parts of this vast and stupendous universe, may not have, will be a great presumption to deny.

He that will not set himself proudly at the top of all things, but will consider the immensity of this fabric, and the great variety that is to be found in this little and inconsiderable part of it which he has to do with, may be apt to think, that in other mansions of it there may be other and different intelligent beings, of whose faculties he has as little knowledge or apprehension, as a worm shut up in one drawer of a cabinet hath of the senses or understanding of a man: such variety and excellency being suitable to the wisdom and power of the Maker.

I have here followed the common opinion of man's having but five senses; though, perhaps, there may be justly counted more: but either supposition serves equally to my present purpose.

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We cannot believe it impossible for God to make a creature with other organs than the five senses he has given to man (as they are usually counted), and with more ways of conveying notice of bodily things into the understanding. For the reason just given, though, I think no one can possibly imagine any other qualities in bodies, however they are constituted, by which they could be noticed, besides sounds, tastes, smells, and visible and tangible qualities.

Had mankind been made with only four senses, the qualities that are the object of the fifth sense would have been as far from our notice, imagination, and conception as any qualities belonging to a sixth, seventh, or eighth sense can possibly be now. And it would be great presumption to deny that some other creatures, in some other parts of this vast and stupendous universe, may have such senses.

A man should not proudly set himself at the top of all things. Let him instead consider the immensity of this structure, and the great variety found in the small and insignificant part of it that he has to do with. He may then be inclined to think that its other dwellings may hold other and different intelligent beings. He may know or grasp their faculties as little as a worm shut up in one drawer of a cabinet knows of the senses or understanding of a man. Such variety and excellence befit the wisdom and power of the Maker.

I have followed here the common opinion that man has only five senses, though perhaps more could justly be counted. Either supposition serves my present purpose equally well.

IDEAS OF ONE SENSE

Locke sorts simple ideas by how they enter the mind, beginning with those from one sense only.

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2.3.1 *Division of simple ideas.*—The better to conceive the ideas we receive from sensation, it may not be amiss for us to consider them in reference to the different ways whereby they make their approaches to our minds, and make themselves perceivable by us.

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Division of simple ideas.—To grasp better the ideas we receive from sensation, it may be useful to consider them in relation to the different ways in which they approach our minds and make themselves perceivable to us.

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First, then, There are some which come into our minds by one sense only.

Secondly, There are others, that convey themselves into the mind by more senses than one.

Thirdly, Others that are had from reflection only.

Fourthly, There are some that make themselves way, and are suggested to the mind by all the ways of sensation and reflection.

We shall consider them apart under their several heads.

First, There are some ideas which have admittance only through one sense, which is peculiarly adapted to receive them. Thus light and colours, as white, red, yellow, blue, with their several degrees or shades, and mixtures, as green, scarlet, purple, sea-green, and the rest, come in only by the eyes; all kinds of noises, sounds, and tones, only by the ears: the several tastes and smells, by the nose and palate.

And if these organs, or the nerves, which are the conduits to convey them from without to their audience in the brain, the mind's presence room (as I may so call it), are any of them so disordered, as not to perform their functions, they have no postern to be admitted by; no other way to bring themselves into view, and be perceived by the understanding.

The most considerable of those belonging to the touch are heat and cold, and solidity; all the rest, consisting almost wholly in the sensible configuration, as smooth and rough, or else more or less firm adhesion of the parts, as hard and soft, tough and brittle, are obvious enough.

2.3.2 *Few simple ideas have names.*—I think it will be needless to enumerate all the particular simple ideas belonging to each sense. Nor indeed is it possible, if we would; there being a great many more of them belonging to most of the senses than we have names for. The variety of smells, which are as many almost, if not more, than species of bodies in the world, do most of them want names. Sweet and stinking commonly serve our turn for these ideas, which in effect is little more than to call them pleasing or displeasing;

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First, then, there are some that come into our minds by one sense only.

Second, there are others that make their way into the mind by more senses than one.

Third, others that are had from reflection only.

Fourth, there are some that make their way into the mind, and are suggested to it, by all the ways of sensation and reflection.

We will consider them separately under these several headings.

First, there are some ideas that are admitted only through one sense, which is specially adapted to receive them. Light and colors come in only by the eyes. These include white, red, yellow, and blue, with their various degrees or shades, and mixtures such as green, scarlet, purple, sea-green, and the rest. All kinds of noises, sounds, and tones come in only by the ears, and the various tastes and smells by the nose and palate.

The nerves are the conduits that carry these ideas from outside to their audience in the brain, the mind's audience chamber, as I may call it. Suppose any of these organs, or their nerves, are so disordered that they do not perform their functions. Then the ideas have no back door to be let in by, and no other way to bring themselves into view and be perceived by the understanding.

The most considerable of the ideas belonging to touch are heat and cold, and solidity. All the rest are obvious enough. They consist almost wholly either in the sensible configuration, as smooth and rough, or in the more or less firm adhesion of the parts, as hard and soft, tough and brittle.

Few simple ideas have names.—I think it unnecessary to list all the particular simple ideas belonging to each sense. Nor would it be possible if we wanted to, since most of the senses have many more of them than we have names for. There are almost as many varieties of smell as there are species of bodies in the world, if not more, and most of them lack names. "Sweet" and "stinking" commonly serve our turn for these ideas. In effect this is little more than calling them pleasing or dis-

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though the smell of a rose and violet, both sweet are certainly very distinct ideas.

Nor are the different tastes, that by our palates we receive ideas of, much better provided with names. Sweet, bitter, sour, harsh, and salt, are almost all the epithets we have to denominate that numberless variety of relishes which are to be found distinct, not only in almost every sort of creatures, but in the different parts of the same plant, fruit, or animal. The same may be said of colours and sounds.

I shall, therefore, in the account of simple ideas I am here giving, content myself to set down only such as are most material to our present purpose, or are in themselves less apt to be taken notice of, though they are very frequently the ingredients of our complex ideas, among which, I think, I may well account solidity; which, therefore, I shall treat of in the next chapter.

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pleasing, though the smell of a rose and that of a violet, both sweet, are certainly very distinct ideas.

Nor are the different tastes, whose ideas we receive by our palates, much better supplied with names. Sweet, bitter, sour, harsh, and salty are almost all the terms we have for naming the numberless variety of distinct flavors. These are found not only in almost every sort of creature, but in the different parts of the same plant, fruit, or animal. The same may be said of colors and sounds.

So in the account of simple ideas I am giving here, I will content myself with setting down only two kinds: those most important for our present purpose, and those less apt in themselves to be noticed, though they are very often ingredients of our complex ideas. Among the latter I think I may well count solidity, which I will therefore treat in the next chapter.

SOLIDITY

The idea of solidity comes from touch and is distinct from both pure space and hardness.

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2.4.1 *We receive this idea from touch.*—The idea of solidity we receive by our touch; and it arises from the resistance which we find in body, to the entrance of any other body into the place it possesses, till it has left it. There is no idea which we receive more constantly from sensation than solidity. Whether we move or rest, in what posture soever we are, we always feel something under us that supports us, and hinders our farther sinking downward: and the bodies which we daily handle make us perceive, that, whilst they remain between them, they do by an insurmountable force hinder the approach of the parts of our hands that press them.

That which thus hinders the approach of two bodies, when they are moved one toward another, I call solidity. I will not dispute whether this acceptation of the word solid be nearer to its original signification than that which mathematicians use it in: it suffices, that I think the common notion of solidity will allow, if not justify, this use of it; but, if any one think it better to call it impenetrability, he has my consent.

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We receive this idea from touch.—We receive the idea of solidity by touch. It arises from the resistance we find in a body to the entry of any other body into the place it occupies, until it has left it. There is no idea we receive more constantly from sensation than solidity. Whether we move or rest, and in whatever posture, we always feel something under us that supports us and stops us from sinking further down. And the bodies we handle every day make us perceive something about them. While they remain between the parts of our hands that press them, they keep those parts from coming together by an insurmountable force.

When two bodies are moved toward each other, what thus prevents them from coming together I call solidity. I will not argue about whether this sense of the word “solid” is nearer its original meaning than the sense mathematicians use it in. It is enough that I think the common notion of solidity will allow this use of it, if not justify it. But if anyone thinks it better to call it impenetrability, he has my consent.

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Only I have thought the term solidity the more proper to express this idea, not only because of its vulgar use in that sense, but also because it carries something more of positive in it than impenetrability, which is negative, and is, perhaps, more a consequence of solidity than solidity itself. This, of all others, seems the idea most intimately connected with, and essential to, body, so as nowhere else to be found or imagined, but only in matter.

And though our senses take no notice of it, but in masses of matter, of a bulk sufficient to cause a sensation in us; yet the mind, having once got this idea from such grosser sensible bodies, traces it farther; and considers it, as well as figure, in the minutest particle of matter that can exist; and finds it inseparably inherent in body, wherever or however modified.

2.4.2 *Solidity fills space.*—This is the idea which belongs to body, whereby we conceive it to fill space. The idea of which filling of space is, that, where we imagine any space taken up by a solid substance, we conceive it so to possess it, that it excludes all other solid substances; and will for ever hinder any other two bodies, that move toward one another in a straight line, from coming to touch one another, unless it removes from between them, in a line not parallel to that which they move in. This idea of it the bodies which we ordinarily handle sufficiently furnish us with.

2.4.3 *Distinct from space.*—This resistance, whereby it keeps other bodies out of the space which it possesses, is so great, that no force, how great soever, can surmount it. All the bodies in the world, pressing a drop of water on all sides, will never be able to overcome the resistance which it will make, soft as it is, to their approaching one another, till it be removed out of their way: whereby our idea of solidity is distinguished both from pure space, which is capable neither of resistance nor motion, and from the ordinary idea of hardness.

For a man may conceive two bodies at a distance, so as they may approach one another, without touching or displacing any solid thing, till their superficies come to meet: whereby I think we have the clear idea of space without solidity. For (not to go so far as annihilation of any particular body) I ask, whether a man cannot have the idea

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Only I have thought the term "solidity" more suitable for expressing this idea. One reason is that it is commonly used in that sense. Another is that it carries something more positive in it than "impenetrability," which is negative, and is perhaps more a consequence of solidity than solidity itself. Of all ideas, this seems the one most intimately connected with, and essential to, body. It is found or imagined nowhere else but in matter.

Our senses notice it only in masses of matter large enough to cause a sensation in us. Yet once the mind has got this idea from such grosser sensible bodies, it traces it further. It considers solidity, as well as figure, in the smallest particle of matter that can exist, and finds it inseparably inherent in body, wherever it is and however it is modified.

Solidity fills space.—This is the idea that belongs to body, by which we conceive it to fill space. The idea of this filling of space is as follows. Where we imagine any space taken up by a solid substance, we conceive it to occupy that space so that it excludes all other solid substances. It will forever prevent any two other bodies moving toward each other in a straight line from touching, unless it moves out from between them in a line not parallel to the one they move in. The bodies we ordinarily handle sufficiently supply us with this idea of it.

Distinct from space.—By this resistance a body keeps other bodies out of the space it occupies, and the resistance is so great that no force, however great, can overcome it. Soft as a drop of water is, all the bodies in the world pressing it on all sides will never overcome its resistance to their coming together, until it is moved out of their way. This distinguishes our idea of solidity both from pure space, which is capable of neither resistance nor motion, and from the ordinary idea of hardness.

For a man can conceive two bodies at a distance, able to approach each other until their surfaces meet, without touching or displacing any solid thing. By this, I think, we have the clear idea of space without solidity. For (not to go so far as the annihilation of any particular body) I ask whether

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of the motion of one single body alone, without any other succeeding immediately into its place? I think it is evident he can: the idea of motion in one body no more including the idea of motion in another, than the idea of a square figure in one body includes the idea of a square figure in another.

I do not ask, whether bodies do so exist that the motion of one body cannot be really without the motion of another? To determine this either way, is to beg the question for or against a vacuum. But my question is, whether one cannot have the idea of one body moved whilst others are at rest? And I think this no one will deny. If so, then the place it deserted gives us the idea of pure space without solidity, whereinto any other body may enter, without either resistance or protrusion of any thing.

When the sucker in a pump is drawn, the space it filled in the tube is certainly the same whether any other body follows the motion of the sucker or not: nor does it imply a contradiction that, upon the motion of one body, another that is only contiguous to it should not follow it. The necessity of such a motion is built only on the supposition that the world is full, but not on the distinct ideas of space and solidity; which are as different as resistance and not resistance; protrusion and not protrusion. And that men have ideas of space without a body, their very disputes about a vacuum plainly demonstrate, as is showed in another place.

2.4.4 *From hardness.*—Solidity is hereby also differenced from hardness, in that solidity consists in repletion, and so an utter exclusion of other bodies out of the space it possesses; but hardness, in a firm cohesion of the parts of matter, making up masses of a sensible bulk, so that the whole does not easily change its figure. And, indeed, hard and soft are names that we give to things only in relation to the constitutions of our own bodies; that being generally called hard by us which will put us to pain sooner than change figure by the pressure of any part of our bodies; and that on the contrary soft, which changes the situation of its parts upon an easy and unpainful touch.

But this difficulty of changing the situation of the sensible parts among themselves, or of the figure

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a man cannot have the idea of one single body moving alone, without any other immediately taking its place. I think it evident that he can. The idea of motion in one body no more includes the idea of motion in another than the idea of a square figure in one body includes the idea of a square figure in another.

I am not asking whether bodies actually exist in such a way that one body cannot really move without another moving too. To decide this either way is to beg the question for or against a vacuum. My question is whether one cannot have the idea of one body moved while others are at rest. And I think no one will deny this. If so, then the place it left gives us the idea of pure space without solidity. Any other body may enter that space without meeting resistance or pushing anything.

When the piston in a pump is drawn, the space it filled in the tube is certainly the same whether any other body follows the piston's motion or not. Nor is it a contradiction that, when one body moves, another that is merely in contact with it should not follow it. The necessity of such a motion rests only on the supposition that the world is full. It does not rest on the distinct ideas of space and solidity, which are as different as resistance and non-resistance, pushing and not pushing. And men's very disputes about a vacuum plainly demonstrate that they have ideas of space without body, as is shown elsewhere.

From hardness.—Solidity is also distinguished from hardness. Solidity consists in fullness, and so in the complete exclusion of other bodies from the space it occupies. Hardness consists in a firm cohesion of the parts of matter that make up masses of a sensible size, so that the whole does not easily change its shape. In fact hard and soft are names we give to things only in relation to the constitution of our own bodies. We generally call a thing hard if, when any part of our bodies presses it, it will cause us pain sooner than change its shape. And we call it soft if it changes the position of its parts at an easy and painless touch.

But this difficulty of changing the position of the sensible parts among themselves, or the shape of

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of the whole, gives no more solidity to the hardest body in the world, than to the softest; nor is an adamant one jot more solid than water.

For though the two flat sides of two pieces of marble will more easily approach each other, between which there is nothing but water or air, than if there be a diamond between them; yet it is not that the parts of the diamond are more solid than those of water, or resist more; but because, the parts of water being more easily separable from each other, they will, by a side-motion, be more easily removed, and give way to the approach of the two pieces of marble.

But if they could be kept from making place by that side-motion, they would eternally hinder the approach of these two pieces of marble as much as the diamond; and it would be as impossible by any force to surmount their resistance, as to surmount the resistance of the parts of a diamond. The softest body in the world will as invincibly resist the coming together of any other two bodies if it be not put out of the way, but remain between them, as the hardest that can be found or imagined.

He that shall fill the yielding soft body well with air or water, will quickly find its resistance: and he that thinks that nothing but bodies that are hard can keep his hands from approaching one another, will be pleased to make a trial with the air enclosed in a football. The experiment, I have been told, was made at Florence with a hollow globe of gold filled with water, and exactly closed, which farther shows the solidity of so soft a body as water.

For the golden globe thus filled being put into a press which was driven by the extreme force of screws, the water made itself way through the pores of that very close metal; and, finding no room for a near approach of its particles within, got to the outside, where it rose like a dew, and so fell in drops, before the sides of the globe could be made to yield to the violent compression of the engine that squeezed it.

2.4.5 *On solidity depend impulse, resistance, and protrusion.*—By this idea of solidity, is the extension of body distinguished from the

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the whole, gives no more solidity to the hardest body in the world than to the softest. Nor is a diamond one jot more solid than water.

The two flat sides of two pieces of marble will come together more easily with nothing but water or air between them than with a diamond between them. But this is not because the parts of the diamond are more solid than those of water, or resist more. It is because the parts of water are more easily separated from one another. A sideways motion moves them aside more easily, and so they give way to the approach of the two pieces of marble.

But suppose they could be prevented from making room by that sideways motion. Then they would forever keep the two pieces of marble apart as much as the diamond does, and no force could overcome their resistance, any more than the resistance of the parts of a diamond. The softest body in the world, if it is not put out of the way but remains between two other bodies, will resist their coming together as invincibly as the hardest body that can be found or imagined.

Anyone who fills a yielding soft body well with air or water will quickly find its resistance. And anyone who thinks that only hard bodies can keep his hands from coming together is welcome to try it with the air enclosed in a football. I have been told that the experiment was made at Florence with a hollow globe of gold, filled with water and exactly sealed. It further shows the solidity of so soft a body as water.[4]

The golden globe, filled in this way, was put into a press driven by the extreme force of screws. The water forced its way through the pores of that very dense metal. Finding no room inside for its particles to come closer together, it got to the outside, where it rose like dew and then fell in drops. All this happened before the sides of the globe could be made to give way under the violent compression of the machine that squeezed it.

On solidity depend impulse, resistance, and protrusion.—This idea of solidity distinguishes the extension of body from the extension of space. The exten-

4 The experiment was performed by the Accademia del Cimento in Florence and reported in its *Saggi di naturali esperienze* (1667); it was usually cited to show that water cannot be compressed.

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extension of space: the extension of body being nothing but the cohesion or continuity of solid, separable, moveable parts; and the extension of space, the continuity of unsolid, inseparable, and immoveable parts. Upon the solidity of bodies also depend their mutual impulse, resistance, and protrusion. Of pure space then, and solidity, there are several, (among which I confess myself one) who persuade themselves they have clear and distinct ideas; and that they can think on space, without any thing in it that resists or is protruded by body.

This is the idea of pure space, which they think they have as clear as any idea they can have of the extension of body; the idea of the distance between the opposite parts of a concave superficies being equally as clear without as with the idea of any solid parts between; and on the other side they persuade themselves, that they have, distinct from that of pure space, the idea of something that fills space, that can be protruded by the impulse of other bodies, or resist their motion.

If there be others that have not these two ideas distinct, but confound them, and make but one of them, I know not how men, who have the same idea under different names, or different ideas under the same name, can in that case talk with one another; any more than a man, who, not being blind or deaf, has distinct ideas of the colour of scarlet, and the sound of a trumpet, could discourse concerning scarlet colour with the blind man I mentioned in another place, who fancied that the idea of scarlet was like the sound of a trumpet.

2.4.6 *What it is.*—If any one ask me what this solidity is? I send him to his senses to inform him; let him put a flint or a football between his hands and then endeavour to join them, and he will know. If he thinks this not a sufficient explication of solidity, what it is, and wherein it consists, I promise to tell him what it is, and wherein it consists, when he tells me what thinking is, or wherein it consists: or explains to me what extension or motion is, which perhaps seems much easier.

The simple ideas we have are such as experience teaches them us: but if, beyond that, we

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sion of body is nothing but the cohesion or continuity of solid, separable, movable parts. The extension of space is the continuity of unsolid, inseparable, and immovable parts. The mutual impulse, resistance, and protrusion of bodies also depend on their solidity. There are several people, then (and I confess myself one of them), who are convinced that they have clear and distinct ideas of pure space and of solidity. They are convinced they can think of space without anything in it that resists or is pushed by body.

This is the idea of pure space. They think they have it as clearly as any idea they can have of the extension of body. The distance between the opposite parts of a concave surface is just as clear to them without the idea of any solid parts between them as with it. On the other hand, they are also convinced that they have a second idea, distinct from that of pure space. This is the idea of something that fills space, that can be pushed by the impulse of other bodies, or resist their motion.

There may be others who do not have these two ideas distinct, but confuse them and make one of them. In that case I do not see how men who have the same idea under different names, or different ideas under the same name, can talk with one another. They could do so no more than a man who is neither blind nor deaf, and has distinct ideas of the color scarlet and the sound of a trumpet, could discuss the color scarlet with the blind man I mentioned elsewhere, who imagined that the idea of scarlet was like the sound of a trumpet.[5]

What it is.—If anyone asks me what this solidity is, I send him to his senses to inform him. Let him put a flint or a football between his hands and then try to press them together, and he will know. He may think this is not a sufficient explanation of what solidity is and what it consists in. Then I promise to tell him when he tells me what thinking is, or what it consists in. Or let him explain to me what extension or motion is, which perhaps seems much easier.

Our simple ideas are such as experience teaches them to us. If we try to go beyond that and make

5 The blind man who thought scarlet was like the sound of a trumpet appears at 3.4.11.

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	endeavour by words to make them clearer in the mind, we shall succeed no better than if we went about to clear up the darkness of a blind man's mind by talking; and to discourse into him the ideas of light and colours. The reason of this I shall show in another place.	them clearer in the mind by words, we will have no more success than we would talking to a blind man to clear up the darkness of his mind. We cannot talk the ideas of light and colors into him. I will show the reason for this elsewhere.

IDEAS OF MORE THAN ONE SENSE

Space, figure, rest and motion reach the mind through both sight and touch.

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2.5.1	The ideas we get by more than one sense are of space, or extension, figure, rest, and motion; for these make perceivable impressions, both on the eyes and touch: and we can receive and convey into our minds the ideas of the extension, figure, motion, and rest of bodies, both by seeing and feeling. But having occasion to speak more at large of these in another place, I here only enumerate them.	The ideas we get by more than one sense are those of space, or extension, figure, rest, and motion. These make perceivable impressions on both the eyes and the touch. We can receive the ideas of the extension, figure, motion, and rest of bodies, and convey them into our minds, both by seeing and by feeling. But I will have occasion to speak of these more fully elsewhere, so here I only list them.

SIMPLE IDEAS OF REFLECTION

Perception and willing, the powers called understanding and will, come from reflection.

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2.6.1	*Simple ideas are the operations of the mind about its other ideas.*—The mind, receiving the ideas, mentioned in the foregoing chapters, from without, when it turns its view inward upon itself, and observes its own actions about those ideas it has, takes from thence other ideas, which are as capable to be the objects of its contemplation as any of those it received from foreign things.	*Simple ideas are the mind's operations on its other ideas.*—The mind receives from outside the ideas mentioned in the preceding chapters. Then it turns its view inward upon itself and observes its own actions concerning the ideas it has. From these it takes other ideas, which are as capable of being objects of its contemplation as any of those it received from things outside it.
2.6.2	*The idea of perception, and idea of willing, we have from reflection.*—The two great and principal actions of the mind, which are most frequently considered, and which are so frequent, that every one that pleases may take notice of them in himself, are these two: perception or thinking; and volition or willing. The power of thinking is called the understanding, and the power of volition is called the will; and these two powers or abilities in the mind are denominated faculties. Of some of the modes of these simple ideas of reflection, such as are remembrance, discerning, reasoning, judging, knowledge, faith, &c., I shall have occasion to speak hereafter.	*We have the idea of perception and the idea of willing from reflection.*—The mind has two great and principal actions. They are the ones most often considered, and they are so frequent that anyone who likes may notice them in himself. They are perception, or thinking, and volition, or willing. The power of thinking is called the understanding, and the power of volition is called the will. These two powers or abilities in the mind are called faculties. Later I will have occasion to speak of some of the modes of these simple ideas of reflection, such as remembering, discerning, reasoning, judging, knowledge, faith, and so on.

IDEAS OF BOTH SENSATION AND REFLECTION

Pleasure and pain, existence, unity, power and succession come by every way into the mind.

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2.7.1 *Pleasure and pain.*—There be other simple ideas which convey themselves into the mind by all the ways of sensation and reflection, viz. pleasure or delight, and its opposite, pain or uneasiness, power, existence, unity.

2.7.2 —Delight or uneasiness, one or other of them, join themselves to almost all our ideas, both of sensation and reflection: and there is scarce any affection of our senses from without, any retired thought of our mind within, which is not able to produce in us pleasure or pain. By pleasure and pain I would be understood to signify whatsoever delights or molests us most; whether it arises from the thoughts of our minds, or any thing operating on our bodies. For whether we call it satisfaction, delight, pleasure, happiness, &c. on the one side; or uneasiness, trouble, pain, torment, anguish, misery, &c.

on the other; they are still but different degrees of the same thing, and belong to the ideas of pleasure and pain, delight or uneasiness; which are the names I shall most commonly use for those two sorts of ideas.

2.7.3 The infinitely wise Author of our being, having given us the power over several parts of our bodies, to move or keep them at rest as we think fit; and also, by the motion of them, to move ourselves and other contiguous bodies in which consist all the actions of our body; having also given a power to our minds, in several instances, to choose among its ideas, which it will think on, and to pursue the inquiry of this or that subject with consideration and attention, to excite us to these actions of thinking and motion that we are capable of; has been pleased to join to several thoughts, and several sensations, a perception of delight.

If this were wholly separated from all our outward sensations and inward thoughts, we should have no reason to prefer one thought or action to another; negligence to attention, or motion to rest. And so we should neither stir our bodies, nor employ our minds, but let our thoughts (if I may so call it) run adrift, without any direction or design; and suffer the ideas of

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Pleasure and pain.—There are other simple ideas that make their way into the mind by all the ways of sensation and reflection. These are pleasure or delight, and its opposite, pain or uneasiness; power; existence; unity.

—Delight or uneasiness, one or the other, attaches itself to almost all our ideas, both of sensation and of reflection. Hardly any affection of our senses from outside, or any private thought of our mind within, is unable to produce pleasure or pain in us. By pleasure and pain I mean whatever delights or troubles us most, whether it arises from the thoughts of our minds or from anything acting on our bodies. On the one side we may call it satisfaction, delight, pleasure, happiness, and so on. On the other we may call it uneasiness, trouble, pain, torment, anguish, misery, and so on.

Either way, these are still only different degrees of the same thing. They belong to the ideas of pleasure and pain, delight or uneasiness, which are the names I will most commonly use for those two sorts of ideas.

The infinitely wise Author of our being has given us power over several parts of our bodies, to move them or keep them at rest as we see fit. By moving them, we can also move ourselves and other bodies in contact with us, and all the actions of our body consist in this. He has also given our minds a power, in several instances, to choose which of its ideas it will think about, and to pursue the inquiry into this or that subject with consideration and attention. To stir us to these actions of thinking and motion that we are capable of, he has been pleased to join a perception of delight to several thoughts and several sensations.

If this delight were wholly separated from all our outward sensations and inward thoughts, we would have no reason to prefer one thought or action to another, negligence to attention, or motion to rest. So we would neither stir our bodies nor use our minds. We would let our thoughts (if I may call them that) drift, without any direction or

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our minds, like unregarded shadows, to make their appearances there, as it happened, without attending to them. In which state, man, however furnished with the faculties of understanding and will, would be a very idle inactive creature, and pass his time only in a lazy, lethargic dream.

It has therefore pleased our wise Creator to annex to several objects, and the ideas which we receive from them, as also to several of our thoughts, a concomitant pleasure, and that in several objects, to several degrees: that those faculties which he had endowed us with might not remain wholly idle and unemployed by us.

2.7.4 Pain has the same efficacy and use to set us on work that pleasure has, we being as ready to employ our faculties to avoid that, as to pursue this; only this is worth our consideration, that pain is often produced by the same objects and ideas that produce pleasure in us. This their near conjunction, which makes us often feel pain in the sensations where we expected pleasure, gives us new occasion of admiring the wisdom and goodness of our Maker; who, designing the preservation of our being, has annexed pain to the application of many things to our bodies, to warn us of the harm that they will do, and as advices to withdraw from them.

But he, not designing our preservation barely, but the preservation of every part and organ in its perfection, hath, in many cases, annexed pain to those very ideas which delight us. Thus heat, that is very agreeable to us in one degree, by a little greater increase of it, proves no ordinary torment; and the most pleasant of all sensible objects, light itself, if there be too much of it, if increased beyond a due proportion to our eyes, causes a very painful sensation; which is wisely and favourably so ordered by nature, that when any object does by the vehemency of its operation disorder the instruments of sensation, whose structures cannot but be very nice and delicate, we might, by the pain, be warned to withdraw before the organ be quite put out of order, and so be unfitted for its proper function for the future.

The consideration of those objects that produce it may well persuade us, that this is the end or use of pain. For though great light be insufferable to our eyes, yet the highest degree of darkness does

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design. We would let the ideas of our minds make their appearances there as it happened, like unregarded shadows, without attending to them. In that state man, however well supplied with the faculties of understanding and will, would be a very idle, inactive creature. He would pass his time only in a lazy, lethargic dream.

Our wise Creator has therefore been pleased to attach an accompanying pleasure to several objects and the ideas we receive from them, and also to several of our thoughts. He has attached it to different objects in different degrees. He did so that the faculties he had endowed us with might not remain wholly idle and unused by us.

Pain has the same power and use in setting us to work as pleasure has, since we are as ready to use our faculties to avoid pain as to pursue pleasure. Only this is worth considering: pain is often produced by the same objects and ideas that produce pleasure in us. Because the two are so closely joined, we often feel pain in sensations where we expected pleasure. This gives us new occasion to admire the wisdom and goodness of our Maker. He intended the preservation of our being, and so attached pain to the application of many things to our bodies. The pain warns us of the harm they will do, and advises us to withdraw from them.

But he intended not merely our preservation. He intended the preservation of every part and organ in its perfection, and so in many cases he attached pain to the very ideas that delight us. Heat is very agreeable to us in one degree, but with a little further increase it becomes no ordinary torment. Light itself is the most pleasant of all sensible objects. Yet if there is too much of it, increased beyond a due proportion to our eyes, it causes a very painful sensation. Nature has wisely and kindly arranged this. The instruments of sensation are necessarily very fine and delicate in their structure, and an object may disorder them by the violence of its action. Then the pain warns us to withdraw before the organ is put quite out of order and made unfit for its proper function in the future.

Considering the objects that produce pain may well persuade us that this is its end or use. For though great light is unbearable to our eyes, the deepest darkness does not harm them at all. Dark-

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not at all disease them; because that causing no disorderly motion in it, leaves that curious organ unharmed, in its natural state. But yet excess of cold as well as heat pains us, because it is equally destructive to that temper which is necessary to the preservation of life, and the exercise of the several functions of the body, and which consists in a moderate degree of warmth; or, if you please, a motion of the insensible parts of our bodies confined within certain bounds.

2.7.5 Beyond all this we may find another reason, why God hath scattered up and down several degrees of pleasure and pain, in all the things that environ and affect us, and blended them together in almost all that our thoughts and senses have to do with; that we finding imperfection, dissatisfaction, and want of complete happiness, in all the enjoyments which the creatures can afford us, might be led to seek it in the enjoyment of Him, "with whom there is fulness of joy, and at whose right hand are pleasures for evermore."

2.7.6 *Pleasure and pain.*—Though what I have here said may not perhaps make the ideas of pleasure and pain clearer to us than our own experience does, which is the only way that we are capable of having them; yet the consideration of the reason why they are annexed to so many other ideas, serving to give us due sentiments of the wisdom and goodness of the Sovereign Disposer of all things, may not be unsuitable to the main end of these inquiries; the knowledge and veneration of him being the chief end of all our thoughts, and the proper business of all understandings.

2.7.7 *Existence and unity.*—Existence and unity are two other ideas that are suggested to the understanding by every object without, and every idea within. When ideas are in our minds, we consider them as being actually there, as well as we consider things to be actually without us: which is, that they exist, or have existence; and whatever we can consider as one thing, whether a real being or idea, suggests to the understanding the idea of unity.

2.7.8 *Power.*—Power also is another of those simple ideas which we receive from sensation and

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ness causes no disorderly motion in the eye, and so leaves that intricate organ unharmed in its natural state. Yet excess of cold, as well as of heat, pains us. Both are equally destructive of the temperature necessary to preserve life and to exercise the various functions of the body. That temperature consists in a moderate degree of warmth or, if you like, in a motion of the insensible parts of our bodies confined within certain bounds.

Beyond all this, we may find another reason why God has scattered various degrees of pleasure and pain throughout all the things that surround and affect us. He has blended them together in almost everything our thoughts and senses have to do with. In all the enjoyments that created things can offer us, we find imperfection, dissatisfaction, and a lack of complete happiness. So we might be led to seek happiness in the enjoyment of Him "with whom there is fullness of joy, and at whose right hand are pleasures for evermore."[6]

Pleasure and pain.—What I have said here may perhaps not make the ideas of pleasure and pain clearer to us than our own experience does, and experience is the only way we are capable of having them. Yet it serves the main aim of these inquiries to consider why they are attached to so many other ideas. Doing so gives us proper sentiments of the wisdom and goodness of the Sovereign Disposer of all things. For the knowledge and veneration of him are the chief end of all our thoughts, and the proper business of all understandings.

Existence and unity.—Existence and unity are two other ideas that are suggested to the understanding by every object outside and every idea within. When ideas are in our minds, we consider them as actually being there, just as we consider things to be actually outside us. That is, we consider that they exist, or have existence. And whatever we can consider as one thing, whether a real being or an idea, suggests to the understanding the idea of unity.

Power.—Power, too, is one of those simple ideas we receive from sensation and reflection. We observe

6 Psalm 16:11.

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reflection. For observing in ourselves, that we can at pleasure move several parts of our bodies which were at rest, the effects also that natural bodies are able to produce in one another occurring every moment to our senses, we both these ways get the idea of power.

2.7.9 *Succession.*—Besides these there is another idea, which, though suggested by our senses, yet is more constantly offered to us by what passes in our minds; and that is the idea of succession. For if we look immediately into ourselves, and reflect on what is observable there, we shall find our ideas always, whilst we are awake, or have any thought, passing in train, one going and another coming without intermission.

2.7.10 *Simple ideas the materials of all our knowledge.*—These, if they are not all, are at least (as I think) the most considerable of those simple ideas which the mind has, and out of which is made all its other knowledge; all which it receives only by the two forementioned ways of sensation and reflection.

Nor let any one think these too narrow bounds for the capacious mind of man to expatiate in, which takes its flight farther than the stars, and cannot be confined by the limits of the world; that extends its thoughts often even beyond the utmost expansion of matter, and makes incursions into that incomprehensible inane. I grant all this, but desire any one to assign any simple idea which is not received from one of those inlets before mentioned, or any complex idea not made out of those simple ones.

Nor will it be so strange to think these few simple ideas sufficient to employ the quickest thought or largest capacity, and to furnish the materials of all that various knowledge, and more various fancies and opinions of all mankind, if we consider how many words may be made out of the various composition of twenty-four letters, or if, going one step farther, we will but reflect on the variety of combinations that may be made with barely one of the above-mentioned ideas, viz. number, whose stock is inexhaustible and truly infinite; and what a large and immense field doth extension alone afford the mathematicians!

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in ourselves that we can move at will several parts of our bodies that were at rest. And the effects that natural bodies are able to produce in one another present themselves to our senses every moment. By both these ways we get the idea of power.

Succession.—Besides these there is another idea, the idea of succession. Our senses suggest it, but it is offered to us more constantly by what passes in our minds. If we look directly into ourselves and reflect on what is observable there, we will find our ideas always passing in a train, one going and another coming, without a break, whenever we are awake or have any thought.

Simple ideas the materials of all our knowledge.—These are, I think, the most considerable of the simple ideas the mind has, if they are not all of them. All its other knowledge is made out of them. And the mind receives them all only by the two ways already mentioned, sensation and reflection.

Someone may think these bounds too narrow for the capacious mind of man to range in. The mind flies further than the stars and cannot be confined by the limits of the world. It often extends its thoughts even beyond the utmost expanse of matter, and makes incursions into that incomprehensible void. I grant all this. But I ask anyone to point to a single simple idea that is not received from one of those inlets mentioned before, or any complex idea not made out of those simple ones.

Perhaps it seems strange that these few simple ideas should be enough to occupy the quickest thought or the largest capacity. They supply the materials of all the varied knowledge of mankind, and of its still more varied fancies and opinions. It will seem less strange if we consider how many words can be made out of the various combinations of twenty-four letters. Or we may go one step further and reflect on the variety of combinations that can be made with just one of the ideas mentioned above, namely number, whose stock is inexhaustible and truly infinite. And what a large and immense field extension alone offers the mathematicians![7]

POSITIVE IDEAS FROM PRIVATIVE CAUSES

Ideas such as black and cold are positive in the mind, whatever their causes in things.

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2.8.1	*Positive ideas from privative causes.*—Concerning the simple ideas of sensation it is to be considered, that whatsoever is so constituted in nature as to be able, by affecting our senses, to cause any perception in the mind, doth thereby produce in the understanding a simple idea, which, whatever be the external cause of it, when it comes to be taken notice of by our discerning faculty, it is by the mind looked on and considered there to be a real positive idea in the understanding, as much as any other whatsoever, though perhaps the cause of it be but privation of the subject.	*Positive ideas from privative causes.*—Concerning the simple ideas of sensation, one point must be considered. Whatever is so constituted in nature as to be able to cause any perception in the mind by affecting our senses thereby produces a simple idea in the understanding. Whatever the external cause of that idea may be, our discerning faculty comes to notice it. The mind then looks on it and considers it a real positive idea in the understanding, as much as any other, though perhaps its cause is only a privation in the subject.
2.8.2	Thus the ideas of heat and cold, light and darkness, white and black, motion and rest, are equally clear and positive ideas in the mind, though perhaps some of the causes which produce them are barely privations in subjects, from whence our senses derive those ideas. These the understanding, in its view of them, considers all as distinct positive ideas, without taking notice of the causes that produce them; which is an inquiry not belonging to the idea, as it is in the understanding, but to the nature of the things existing without us. These are two very different things, and carefully to be distinguished; it being one thing to perceive and know the idea of white or black, and quite another to examine what kind of particles they must be, and how ranged in the superficies, to make any object appear white or black.	Thus the ideas of heat and cold, light and darkness, white and black, motion and rest, are equally clear and positive ideas in the mind. This is so even though some of their causes may be mere privations in the subjects from which our senses derive those ideas. In viewing them, the understanding considers all of them as distinct positive ideas, without noticing the causes that produce them. That inquiry does not belong to the idea as it is in the understanding. It belongs to the nature of the things existing outside us. These are two very different things and must be carefully distinguished. It is one thing to perceive and know the idea of white or black. It is quite another to examine what kind of particles there must be, and how they must be arranged on the surface, to make an object appear white or black.
2.8.3	A painter or dyer, who never inquired into their causes, hath the ideas of white and black, and other colours, as clearly, perfectly, and distinctly in his understanding, and perhaps more distinctly, than the philosopher, who hath busied himself in considering their natures, and thinks he knows how far either of them is in its cause positive or privative; and the idea of black is no less positive in his mind than that of white, however the cause of that colour in the external object may be only a privation.	A painter or dyer may never have inquired into their causes, yet he has the ideas of white and black and other colors in his understanding clearly, perfectly, and distinctly. He has them as distinctly as the philosopher, and perhaps more so. The philosopher has busied himself in considering their natures, and thinks he knows how far each of them is positive or privative in its cause. And the idea of black is no less positive in the painter's mind than that of white, however much the cause of that color in the external object may be only a privation.

7 Twenty-four letters: the alphabet as then commonly counted, with i/j and u/v each treated as one letter.

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2.8.4 If it were the design of my present undertaking to inquire into the natural causes and manner of perception, I should offer this as a reason why a privative cause might, in some cases at least, produce a positive idea, viz. that all sensation being produced in us, only by different degrees and modes of motion in our animal spirits, variously agitated by external objects, the abatement of any former motion must as necessarily produce a new sensation, as the variation or increase of it; and so introduce a new idea, which depends only on a different motion of the animal spirits in that organ.

2.8.5 But whether this be so or no, I will not here determine, but appeal to every one's own experience, whether the shadow of a man, though it consist of nothing but the absence of light (and the more the absence of light is, the more discernible is the shadow) does not, when a man looks on it, cause as clear and positive idea in his mind, as a man himself, though covered over with a clear sunshine? and the picture of a shadow is a positive thing. Indeed, we have negative names, which stand not directly for positive ideas, but for their absence, such as insipid, silence, nihil, &c. which words denote positive ideas; *v. g.* taste, sound, being, with a signification of their absence?

2.8.6 *Positive ideas from privative causes.*—And thus one may truly be said to see darkness. For supposing a hole perfectly dark, from whence no light is reflected, it is certain one may see the figure of it, or it may be painted; or whether the ink I write with makes any other idea, is a question. The privative causes I have here assigned of positive ideas are according to the common opinion: but in truth it will be hard to determine whether there be really any ideas from a privative cause, till it be determined whether rest be any more a privation than motion.

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If the aim of my present undertaking were to inquire into the natural causes and manner of perception, I would offer this reason why a privative cause might, at least in some cases, produce a positive idea. All sensation is produced in us only by different degrees and modes of motion in our animal spirits, which external objects agitate in various ways. So the lessening of any former motion must produce a new sensation just as necessarily as the variation or increase of that motion does. It must introduce a new idea, which depends only on a different motion of the animal spirits in that organ.[8]

But I will not decide here whether this is so or not. Instead I appeal to everyone's own experience. The shadow of a man consists of nothing but the absence of light, and the greater the absence of light, the more visible the shadow. When someone looks at it, does it not cause as clear and positive an idea in his mind as the man himself does, even covered in bright sunshine? And the picture of a shadow is a positive thing. We do, indeed, have negative names, which stand not directly for positive ideas but for their absence, such as "insipid," "silence," "nihil," and so on. These words denote positive ideas, for example taste, sound, being, with a signification of their absence.[9]

Positive ideas from privative causes.—And so one may truly be said to see darkness. For suppose there is a perfectly dark hole, from which no light is reflected. It is certain that one may see its shape, or it may be painted. Whether the ink I write with produces any other idea is a question. The privative causes I have assigned here for positive ideas follow the common opinion. But in truth it will be hard to determine whether there really are any ideas from a privative cause, until it has been determined whether rest is any more a privation than motion is.

8 "Animal spirits": in the physiology of the period, a fine fluid thought to flow through the nerves and carry sensation and motion.
9 *Nihil*: Latin for "nothing."

PRIMARY AND SECONDARY QUALITIES

Locke separates qualities our ideas resemble, like figure and motion, from powers like color and taste.

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2.8.7 *Ideas in the mind, qualities in bodies.*—To discover the nature of our ideas the better, and to discourse of them intelligibly, it will be convenient to distinguish them as they are ideas or perceptions in our minds, and as they are modifications of matter in the bodies that cause such perceptions in us; that so we may not think (as perhaps usually is done) that they are exactly the images and resemblances of something inherent in the subject; most of those of sensation being in the mind no more the likeness of something existing without us, than the names that stand for them are the likeness of our ideas, which yet, upon hearing, they are apt to excite in us.

2.8.8 Whatsoever the mind perceives in itself, or is the immediate object of perception, thought, or understanding, that I call idea; and the power to produce any idea in our mind I call quality of the subject wherein that power is. Thus a snowball having the power to produce in us the ideas of white, cold, and round, the powers to produce those ideas in us, as they are in the snowball, I call qualities; and as they are sensations or perceptions in our understandings, I call them ideas; which ideas, if I speak of sometimes as in the things themselves, I would be understood to mean those qualities in the objects which produce them in us.

2.8.9 *Primary qualities.*—Qualities thus considered in bodies are, first, such as are utterly inseparable from the body, in what estate soever it be; such as in all the alterations and changes it suffers, all the force can be used upon it, it constantly keeps; and such as sense constantly finds in every particle of matter which has bulk enough to be perceived, and the mind finds inseparable from every particle of matter, though less than to make itself singly be perceived by our senses: v.

g. take a grain of wheat, divide it into two parts, each part has still solidity, extension, figure, and mobility; divide it again and it retains still the same qualities; and so divide it on till the parts become insensible, they must retain still each of them all those qualities: for division (which is all

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Ideas in the mind, qualities in bodies.—To uncover the nature of our ideas better, and to discuss them intelligibly, it will be convenient to distinguish them in two ways: as they are ideas or perceptions in our minds, and as they are modifications of matter in the bodies that cause such perceptions in us. That way we will not think (as is perhaps usually done) that they are exact images and resemblances of something inherent in the subject. Most ideas of sensation are no more the likeness of something existing outside us than the names that stand for them are the likeness of our ideas, though names, when we hear them, tend to call those ideas up in us.

Whatever the mind perceives in itself, or whatever is the immediate object of perception, thought, or understanding, I call an idea. The power to produce any idea in our mind I call a quality of the subject in which that power is. Thus a snowball has the power to produce in us the ideas of white, cold, and round. The powers to produce those ideas in us, as they are in the snowball, I call qualities; and as they are sensations or perceptions in our understandings, I call them ideas. If I sometimes speak of these ideas as being in the things themselves, I should be understood to mean those qualities in the objects which produce them in us.

Primary qualities.—Considered in this way, the qualities in bodies are, first, those that are utterly inseparable from the body, whatever state it is in. The body constantly keeps them through all the alterations and changes it undergoes, whatever force is used on it. Sense constantly finds them in every particle of matter that is big enough to be perceived. The mind finds them inseparable from every particle of matter, even one too small to be perceived singly by our senses.

Take a grain of wheat, for example, and divide it into two parts: each part still has solidity, extension, figure, and mobility. Divide it again, and it still keeps the same qualities. Keep dividing it until the parts become insensible, and each of them must still keep all those qualities. For division

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that a mill, or pestle, or any other body does upon another, in reducing it to insensible parts) can never take away either solidity, extension, figure, or mobility from any body, but only makes two or more distinct separate masses of matter of that which was but one before; all which distinct masses, reckoned as so many distinct bodies, after division, make a certain number.

These I call original or primary qualities of body, which I think we may observe to produce simple ideas in us, viz. solidity, extension, figure, motion or rest, and number.

2.8.10 *Secondary qualities.*—Secondly, such qualities which in truth are nothing in the objects themselves, but powers to produce various sensations in us by their primary qualities, *i. e.* by the bulk, figure, texture, and motion of their insensible parts, as colours, sounds, tastes, &c. these I call secondary qualities. To these might be added a third sort, which are allowed to be barely powers, though they are as much real qualities in the subject as those which I, to comply with the common way of speaking, call qualities, but for distinction, secondary qualities.

For the power in fire to produce a new colour, or consistency, in wax or clay, by its primary qualities, is as much a quality in fire as the power it has to produce in me a new idea or sensation of warmth or burning, which I felt not before, by the same primary qualities, viz. the bulk, texture, and motion of its insensible parts.

2.8.11 *How primary qualities produce their ideas.*—The next thing to be considered is, how bodies produce ideas in us; and that is manifestly by impulse, the only way which we can conceive bodies to operate in.

2.8.12 If then external objects be not united to our minds, when they produce ideas therein, and yet we perceive these original qualities in such of them as singly fall under our senses, it is evident that some motion must be thence continued by our nerves or animal spirits, by some parts of our bodies, to the brain, or the seat of sensation, there to produce in our minds the particular ideas we have of them.

And since the extension, figure, number, and motion of bodies, of an observable bigness, may

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(which is all that a mill, or a pestle, or any other body does to another in reducing it to insensible parts) can never take away solidity, extension, figure, or mobility from any body. It only makes two or more distinct, separate masses of matter out of what was only one before. All these distinct masses, counted as so many distinct bodies after division, make a certain number.

These I call the original or primary qualities of body. I think we can observe that they produce simple ideas in us, namely, solidity, extension, figure, motion or rest, and number.

Secondary qualities.—Second, there are qualities that in truth are nothing in the objects themselves but powers to produce various sensations in us by means of their primary qualities, that is, by the bulk, figure, texture, and motion of their insensible parts. Colors, sounds, tastes, and so on are of this kind. These I call secondary qualities. A third sort might be added to these, which everyone allows to be mere powers. Yet they are as much real qualities in the subject as those which I call qualities, to go along with the common way of speaking, and, to distinguish them, secondary qualities.

For the power in fire to produce a new color or consistency in wax or clay by its primary qualities is as much a quality in fire as the power it has to produce in me a new idea or sensation of warmth or burning, which I did not feel before. It does this by the same primary qualities, namely, the bulk, texture, and motion of its insensible parts.

How primary qualities produce their ideas.—The next thing to consider is how bodies produce ideas in us. That is plainly by impulse, the only way in which we can conceive bodies to operate.

External objects are not united to our minds when they produce ideas there, and yet we perceive these original qualities in those of them that fall singly under our senses. It is evident, then, that some motion must be carried on from them by our nerves or animal spirits, through some parts of our bodies, to the brain or the seat of sensation, there to produce in our minds the particular ideas we have of them.

And since the extension, figure, number, and motion of bodies of an observable size may be per-

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be perceived at a distance by the sight, it is evident some singly imperceptible bodies must come from them to the eyes, and thereby convey to the brain some motion, which produces these ideas which we have of them in us.

2.8.13 *How secondary.*—After the same manner that the ideas of these original qualities are produced in us, we may conceive that the ideas of secondary qualities are also produced, viz. by the operations of insensible particles on our senses.

For it being manifest that there are bodies, each whereof are so small that we cannot, by any of our senses, discover either their bulk, figure, or motion, as is evident in the particles of the air and water, and others extremely smaller than those, perhaps as much smaller than the particles of air and water, as the particles of air and water are smaller than peas or hailstones; let us suppose at present, that the different motions and figures, bulk and number of such particles, affecting the several organs of our senses, produce in us those different sensations, which we have from the colours and smells of bodies; v.

g. that a violet, by the impulse of such insensible particles of matter of peculiar figures and bulks, and in different degrees and modifications of their motions, causes the ideas of the blue colour and sweet scent of that flower to be produced in our minds, it being no more impossible to conceive that God should annex such ideas to such motions, with which they have no similitude, than that he should annex the idea of pain to the motion of a piece of steel dividing our flesh, with which that idea hath no resemblance.

2.8.14 What I have said concerning colours and smells may be understood also of tastes and sounds, and other the like sensible qualities; which, whatever reality we by mistake attribute to them, are in truth nothing in the objects themselves, but powers to produce various sensations in us, and depend on those primary qualities, viz. bulk, figure, texture, and motion of parts, as I have said.

2.8.15 *Ideas of primary qualities are resemblances; of secondary, not.*—From whence I think it easy to draw this observation, that the ideas of primary qualities of bodies are resemblances of them, and their patterns do really exist in the bodies themselves; but the ideas produced in us by these

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ceived at a distance by sight, it is evident that some bodies, each imperceptible by itself, must come from them to the eyes. These convey to the brain some motion, which produces in us the ideas we have of them.

How secondary.—We may conceive that the ideas of secondary qualities are produced in us in the same way as the ideas of these original qualities are, namely, by the operation of insensible particles on our senses.

For it is plain that there are bodies each of which is so small that we cannot discover its bulk, figure, or motion by any of our senses. This is evident in the particles of air and water. There are others far smaller still, perhaps as much smaller than the particles of air and water as those particles are smaller than peas or hailstones. Let us suppose for now that the different motions and figures, bulk and number, of such particles affect the various organs of our senses, and produce in us the different sensations we have from the colors and smells of bodies.

Suppose, for example, that a violet causes the ideas of the blue color and sweet scent of that flower to be produced in our minds by the impulse of such insensible particles of matter, of particular figures and sizes, and with different degrees and modifications of motion. It is no more impossible to conceive that God should attach such ideas to motions they do not resemble than that he should attach the idea of pain to the motion of a piece of steel cutting our flesh, which that idea does not resemble at all.

What I have said about colors and smells may be understood of tastes and sounds too, and of other similar sensible qualities. Whatever reality we mistakenly attribute to them, they are in truth nothing in the objects themselves but powers to produce various sensations in us. As I have said, they depend on those primary qualities, namely, the bulk, figure, texture, and motion of parts.

Ideas of primary qualities are resemblances; of secondary, not.—From this, I think, it is easy to draw an observation. The ideas of the primary qualities of bodies are resemblances of them, and their patterns really do exist in the bodies themselves. But

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secondary qualities have no resemblance of them at all. There is nothing like our ideas existing in the bodies themselves. They are in the bodies, we denominate from them, only a power to produce those sensations in us; and what is sweet, blue, or warm in idea, is but the certain bulk, figure, and motion of the insensible parts in the bodies themselves, which we call so.

2.8.16 Flame is denominated hot and light; snow white and cold; and manna white and sweet, from the ideas they produce in us: which qualities are commonly thought to be the same in those bodies that those ideas are in us, the one the perfect resemblance of the other, as they are in a mirror; and it would by most men be judged very extravagant if one should say otherwise.

And yet he that will consider that the same fire, that at one distance produces in us the sensation of warmth, does at a nearer approach produce in us the far different sensations of pain, ought to bethink himself what reason he has to say, that his idea of warmth, which was produced in him by the fire, is actually in the fire: and his idea of pain, which the same fire produced in him the same way, is not in the fire. Why are whiteness and coldness in snow, and pain not, when it produces the one and the other idea in us, and can do neither but by the bulk, figure, number, and motion of its solid parts.

2.8.17 The particular bulk, number, figure, and motion of the parts of fire, or snow, are really in them, whether any one's senses perceive them or no; and therefore they may be called real qualities, because they really exist in those bodies; but light, heat, whiteness, or coldness, are no more really in them than sickness or pain is in manna. Take away the sensation of them; let not the eyes see light or colours, nor the ears hear sounds; let the palate not taste, nor the nose smell; and all colours, tastes, odours, and sounds, as they are such particular ideas, vanish and cease, and are reduced to their causes, *i. e.* bulk, figure, and motion of parts.

2.8.18 A piece of manna of a sensible bulk is able to produce in us the idea of a round or square figure,

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the ideas produced in us by these secondary qualities have no resemblance to them at all. There is nothing like our ideas existing in the bodies themselves. In the bodies we name after them, they are only a power to produce those sensations in us. What is sweet, blue, or warm in idea is nothing but a certain bulk, figure, and motion of the insensible parts in the bodies themselves, which we call by those names.

Flame is called hot and light, snow white and cold, and manna white and sweet, from the ideas they produce in us. These qualities are commonly thought to be the same in those bodies as those ideas are in us, the one a perfect resemblance of the other, as in a mirror. Most people would judge it very extravagant if anyone said otherwise.[10]

And yet the same fire that produces in us the sensation of warmth at one distance produces the very different sensation of pain when we come closer. Anyone who considers this ought to ask himself what reason he has to say that his idea of warmth, produced in him by the fire, is actually in the fire, while his idea of pain, which the same fire produced in him in the same way, is not. Why are whiteness and coldness in snow, and pain not, when snow produces both the one idea and the other in us, and can do neither except by the bulk, figure, number, and motion of its solid parts?

The particular bulk, number, figure, and motion of the parts of fire or snow are really in them, whether or not anyone's senses perceive them. They can therefore be called real qualities, because they really exist in those bodies. But light, heat, whiteness, or coldness are no more really in them than sickness or pain is in manna. Take away the sensation of them. Let the eyes not see light or colors, nor the ears hear sounds; let the palate not taste, nor the nose smell. Then all colors, tastes, odors, and sounds, as they are such particular ideas, vanish and cease, and are reduced to their causes, that is, the bulk, figure, and motion of parts.

A piece of manna of a perceptible size is able to produce in us the idea of a round or square figure.

10 Manna here is the apothecary's manna, the dried sweet sap of the manna ash, used in Locke's day as a mild laxative.

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and, by being removed from one place to another, the idea of motion. This idea of motion represents it as it really is in the manna moving: a circle or square are the same, whether in idea or existence, in the mind or in the manna; and this both motion and figure are really in the manna, whether we take notice of them or no: this every body is ready to agree to. Besides, manna, by the bulk, figure, texture, and motion of its parts, has a power to produce the sensations of sickness, and sometimes of acute pains or gripings in us.

That these ideas of sickness and pain are not in the manna, but effects of its operations on us, and are nowhere when we feel them not: this also every one readily agrees to. And yet men are hardly to be brought to think, that sweetness and whiteness are not really in manna; which are but the effects of the operations of manna, by the motion, size, and figure of its particles on the eyes and palate;

as the pain and sickness caused by manna are confessedly nothing but the effects of its operation on the stomach and guts, by the size, motion, and figure of its insensible parts (for by nothing else can a body operate, as has been proved;) as if it could not operate on the eyes and palate, and thereby produce in the mind particular distinct ideas, which in itself it has not, as well as we allow it can operate on the guts and stomach, and thereby produce distinct ideas, which in itself it has not.

These ideas being all effects of the operations of manna on several parts of our bodies, by the size, figure, number, and motion of its parts; why those produced by the eyes and palate, should rather be thought to be really in the manna than those produced by the stomach and guts; or why the pain and sickness, ideas that are the effects of manna, should be thought to be nowhere when they are not felt; and yet the sweetness and whiteness, effects of the same manna on other parts of the body, by ways equally as unknown, should be thought to exist in the manna, when they are not seen or tasted, would need some reason to explain.

2.8.19 *Ideas of primary qualities are resemblances; of secondary, not.*—Let us consider the red and white colour in porphyry: hinder light from striking on

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By being moved from one place to another, it produces the idea of motion. This idea of motion represents it as it really is in the moving manna. A circle or a square is the same whether in idea or in existence, in the mind or in the manna. So both motion and figure are really in the manna, whether we notice them or not, and everybody readily agrees to this. Besides this, manna has a power, by the bulk, figure, texture, and motion of its parts, to produce in us the sensations of sickness, and sometimes of sharp pains or gripes.

Everyone also readily agrees that these ideas of sickness and pain are not in the manna. They are effects of its operation on us, and they are nowhere when we do not feel them. And yet people can hardly be brought to think that sweetness and whiteness are not really in manna. These are only the effects of the manna's operation on the eyes and palate, by the motion, size, and figure of its particles,

just as the pain and sickness caused by manna are admittedly nothing but the effects of its operation on the stomach and bowels, by the size, motion, and figure of its insensible parts (for a body can operate by nothing else, as has been proved). It is as if manna could not operate on the eyes and palate, and so produce in the mind particular distinct ideas which it does not itself have, just as we allow that it can operate on the bowels and stomach, and so produce distinct ideas which it does not itself have.

These ideas are all effects of the manna's operation on various parts of our bodies, by the size, figure, number, and motion of its parts. Some reason would be needed to explain two things. Why should the ideas produced by way of the eyes and palate be thought to be really in the manna, rather than those produced by way of the stomach and bowels? And why should the pain and sickness, ideas that are effects of manna, be thought to be nowhere when they are not felt, while the sweetness and whiteness are thought to exist in the manna when they are not seen or tasted? After all, these are effects of the same manna on other parts of the body, in ways that are just as unknown.

Ideas of primary qualities are resemblances; of secondary, not.—Consider the red and white color in porphyry. Prevent light from striking it, and its colors

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it, and its colours vanish; it no longer produces any such ideas in us; upon the return of light it produces these appearances on us again. Can any one think any real alterations are made in the porphyry by the presence or absence of light: and that those ideas of whiteness and redness are really in porphyry in the light, when it is plain it has no colour in the dark?

It has, indeed, such a configuration of particles, both night and day, as are apt by the rays of light rebounding from some parts of that hard stone, to produce in us the idea of redness, and from others the idea of whiteness; but whiteness or redness are not in it at any time, but such a texture, that hath the power to produce such a sensation in us.

2.8.20 Pound an almond, and the clear white colour will be altered into a dirty one, and the sweet taste into an oily one. What real alteration can the beating of the pestle make in any body, but an alteration of the texture of it?

2.8.21 Ideas being thus distinguished and understood, we may be able to give an account how the same water, at the same time, may produce the idea of cold by one hand, and of heat by the other; whereas it is impossible that the same water, if those ideas were really in it, should at the same time be both hot and cold: for if we imagine warmth, as it is in our hands, to be nothing but a certain sort and degree of motion in the minute particles of our nerves or animal spirits, we may understand how it is possible that the same water may, at the same time, produce the sensations of heat in one hand, and cold in the other; which yet figure never does, that never producing the idea of a square by one hand, which has produced the idea of a globe by another.

But if the sensation of heat and cold be nothing but the increase or diminution of the motion of the minute parts of our bodies, caused by the corpuscles of any other body, it is easy to be understood, that if that motion be greater in one hand than in the other; if a body be applied to the two hands, which has in its minute particles a greater motion, than in those of one of the hands, and a less than in those of the other; it will increase the motion of the one hand, and lessen it

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vanish; it no longer produces any such ideas in us. When the light returns, it produces these appearances in us again. Can anyone think that the presence or absence of light makes any real alteration in the porphyry? Can anyone think that those ideas of whiteness and redness are really in the porphyry in the light, when it plainly has no color in the dark?

It does indeed have, both night and day, a certain configuration of particles. When rays of light bounce off some parts of that hard stone, this configuration tends to produce in us the idea of redness, and from other parts the idea of whiteness. But whiteness or redness is not in it at any time. There is only a texture that has the power to produce such a sensation in us.

Pound an almond, and its clear white color will be changed into a dirty one, and its sweet taste into an oily one. What real alteration can the beating of the pestle make in any body except an alteration of its texture?

Once ideas are distinguished and understood in this way, we may be able to explain how the same water, at the same time, may produce the idea of cold by one hand and of heat by the other. If those ideas were really in the water, it would be impossible for the same water to be both hot and cold at the same time. But suppose we imagine warmth, as it is in our hands, to be nothing but a certain sort and degree of motion in the tiny particles of our nerves or animal spirits. Then we can understand how the same water can produce, at the same time, the sensation of heat in one hand and of cold in the other. Figure never does this. It never produces the idea of a square by one hand when it has produced the idea of a globe by the other.

But if the sensation of heat and cold is nothing but the increase or decrease of the motion of the tiny parts of our bodies, caused by the corpuscles of some other body, the following is easy to understand. Suppose that motion is greater in one hand than in the other. Suppose a body is applied to both hands that has a greater motion in its tiny particles than those of one hand have, and a lesser motion than those of the other. It will increase the motion in the one hand and reduce it in the other,

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in the other, and so cause the different sensations of heat and cold that depend thereon.

2.8.22 I have in what just goes before been engaged in physical inquiries a little farther than perhaps I intended. But it being necessary to make the nature of sensation a little understood, and to make the difference between the qualities in bodies and the ideas produced by them in the mind, to be distinctly conceived, without which it were impossible to discourse intelligibly of them, I hope I shall be pardoned this little excursion into natural philosophy, it being necessary in our present inquiry to distinguish the primary and real qualities of bodies, which are always in them (viz. solidity, extension, figure, number, and motion or rest; and are sometimes perceived by us, viz.

when the bodies they are in are big enough singly to be discerned) from those secondary and imputed qualities, which are but the powers of several combinations of those primary ones, when they operate, without being distinctly discerned; whereby we may also come to know what ideas are, and what are not, resemblances of something really existing in the bodies we denominate from them.

2.8.23 *Three sorts of qualities in bodies.*—The qualities then that are in bodies, rightly considered, are of three sorts.

First, The bulk, figure, number, situation, and motion or rest of their solid parts; those are in them, whether we perceive them or no; and when they are of that size that we can discover them, we have by these an idea of the thing, as it is in itself, as is plain in artificial things. These I call primary qualities.

Secondly, The power that is in any body, by reason of its insensible primary qualities, to operate after a peculiar manner on any of our senses, and thereby produce in us the different ideas of several colours, sounds, smells, tastes, &c. These are usually called sensible qualities.

Thirdly, The power that is in any body, by reason of the particular constitution of its primary qualities, to make such a change in the bulk, figure, texture, and motion of another body, as to

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and so cause the different sensations of heat and cold that depend on it.

In what has just gone before, I have gone a little further into physical inquiries than I perhaps intended. But it was necessary to make the nature of sensation somewhat understood. It was also necessary to make the difference between the qualities in bodies and the ideas they produce in the mind distinctly conceived, since without this it would be impossible to talk intelligibly about them. So I hope I will be pardoned this little excursion into natural philosophy. For in our present inquiry it is necessary to distinguish the primary and real qualities of bodies, which are always in them (namely, solidity, extension, figure, number, and motion or rest, and which are sometimes perceived by us, namely,

when the bodies they are in are big enough to be discerned singly), from those secondary and imputed qualities. These are only the powers of various combinations of those primary ones, when they operate without being distinctly discerned. By this we may also come to know which ideas are, and which are not, resemblances of something really existing in the bodies we name after them.

Three sorts of qualities in bodies.—The qualities that are in bodies, then, rightly considered, are of three sorts.

First, the bulk, figure, number, situation, and motion or rest of their solid parts. These are in them whether we perceive them or not. When they are big enough for us to discover them, they give us an idea of the thing as it is in itself, as is plain in artificial things. These I call primary qualities.

Second, the power that is in any body, by reason of its insensible primary qualities, to operate in a particular way on any of our senses, and so produce in us the different ideas of various colors, sounds, smells, tastes, and so on. These are usually called sensible qualities.

Third, the power that is in any body, by reason of the particular constitution of its primary qualities, to change the bulk, figure, texture, and motion of another body so that it operates on our senses dif-

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make it operate on our senses, differently from what it did before. Thus the sun has a power to make wax white, and fire to make lead fluid. These are usually called powers.

The first of these, as has been said, I think may be properly called real, original, or primary qualities, because they are in the things themselves, whether they are perceived or no; and upon their different modifications it is, that the secondary qualities depend.

The other two are only powers to act differently upon other things, which powers result from the different modifications of those primary qualities.

2.8.24 *The first are resemblances. The second thought resemblances, but are not. The third neither are, nor are thought so.*—But though the two latter sorts of qualities are powers barely, and nothing but powers, relating to several other bodies, and resulting from the different modifications of the original qualities, yet they are generally otherwise thought of: for the second sort, viz. the powers to produce several ideas in us by our senses, are looked upon as real qualities, in the things thus affecting us; but the third sort are called and esteemed barely powers, v.

g. the idea of heat or light, which we receive by our eyes or touch from the sun, are commonly thought real qualities, existing in the sun, and something more than mere powers in it. But when we consider the sun, in reference to wax, which it melts or blanches, we look on the whiteness and softness produced in the wax, not as qualities in the sun, but effects produced by powers in it: whereas, if rightly considered, these qualities of light and warmth, which are perceptions in me when I am warmed or enlightened by the sun, are no otherwise in the sun, than the changes made in the wax, when it is blanched or melted, are in the sun.

They are all of them equally powers in the sun, depending on its primary qualities; whereby it is able, in the one case, so to alter the bulk, figure, texture, or motion of some of the insensible parts of my eyes or hands, as thereby to produce in me the idea of light or heat; and in the other, it is able so to alter the bulk, figure, texture, or motion of the insensible parts of the wax, as to make them

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ferently from the way it did before. Thus the sun has a power to make wax white, and fire to make lead fluid. These are usually called powers.

The first of these, as has been said, I think may properly be called real, original, or primary qualities, because they are in the things themselves whether they are perceived or not. It is on their different modifications that the secondary qualities depend.

The other two are only powers to act differently on other things. These powers result from the different modifications of those primary qualities.

The first are resemblances. The second thought resemblances, but are not. The third neither are, nor are thought so.—The two latter sorts of qualities are mere powers and nothing but powers. They relate to various other bodies and result from the different modifications of the original qualities. Yet they are generally thought of otherwise. The second sort, namely, the powers to produce various ideas in us through our senses, are regarded as real qualities in the things that affect us in this way. The third sort are called and considered mere powers.

For example, the ideas of heat or light, which we receive from the sun by our eyes or touch, are commonly thought to be real qualities existing in the sun, and something more than mere powers in it. But when we consider the sun in relation to wax, which it melts or bleaches, we regard the whiteness and softness produced in the wax as effects produced by powers in the sun, not as qualities in it. Yet, rightly considered, these qualities of light and warmth are perceptions in me when I am warmed or lit by the sun. They are in the sun in no other way than the changes made in the wax, when it is bleached or melted, are in the sun.

They are all equally powers in the sun, depending on its primary qualities. In the one case, these enable it to alter the bulk, figure, texture, or motion of some of the insensible parts of my eyes or hands, and so to produce in me the idea of light or heat. In the other case, they enable it to alter the bulk, figure, texture, or motion of the insensible

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fit to produce in me the distinct ideas of white and fluid.

2.8.25 The reason why the one are ordinarily taken for real qualities, and the other only for bare powers, seems to be because the ideas we have of distinct colours, sounds, &c. containing nothing at all in them of bulk, figure, or motion, we are not apt to think them the effects of these primary qualities, which appear not, to our senses, to operate in their production; and with which they have not any apparent congruity, or conceivable connexion.

Hence it is that we are so forward to imagine, that those ideas are the resemblances of something really existing in the objects themselves; since sensation discovers nothing of bulk, figure, or motion of parts in their production; nor can reason show how bodies, by their bulk, figure, and motion, should produce in the mind the ideas of blue or yellow, &c. But in the other case, in the operations of bodies changing the qualities one of another, we plainly discover, that the quality produced hath commonly no resemblance with any thing in the thing producing it: wherefore we look on it as a bare effect of power.

For though receiving the idea of heat or light from the sun, we are apt to think it is a perception and resemblance of such a quality in the sun; yet when we see wax, or a fair face, receive change of colour from the sun, we cannot imagine that to be the reception or resemblance of any thing in the sun, because we find not those different colours in the sun itself.

For our senses being able to observe a likeness or unlikeness of sensible qualities in two different external objects, we forwardly enough conclude the production of any sensible quality in any subject to be an effect of bare power, and not the communication of any quality, which was really in the efficient, when we find no such sensible quality in the thing that produced it.

But our senses not being able to discover any unlikeness between the idea produced in us, and the quality of the object producing it, we are apt to imagine that our ideas are resemblances of something in the objects, and not the effects of certain powers placed in the modification of their

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parts of the wax, and so to make them fit to produce in me the distinct ideas of white and fluid.

The one sort is ordinarily taken for real qualities, and the other only for mere powers. The reason seems to be this. The ideas we have of distinct colors, sounds, and so on contain nothing at all of bulk, figure, or motion. So we are not inclined to think of them as effects of these primary qualities. The primary qualities do not appear to our senses to operate in producing them, and the ideas have no apparent agreement or conceivable connection with them.

That is why we are so quick to imagine that those ideas are resemblances of something really existing in the objects themselves. Sensation discovers nothing of the bulk, figure, or motion of parts in their production, and reason cannot show how bodies, by their bulk, figure, and motion, should produce in the mind the ideas of blue or yellow, and so on. But in the other case, in the operations of bodies that change one another's qualities, we plainly discover that the quality produced commonly has no resemblance to anything in the thing producing it. So we regard it as a mere effect of power.

When we receive the idea of heat or light from the sun, we tend to think it is a perception and resemblance of such a quality in the sun. But when we see wax, or a fair face, change color from the sun, we cannot imagine that this is the reception or resemblance of anything in the sun, because we do not find those different colors in the sun itself.

For our senses are able to observe a likeness or unlikeness of sensible qualities in two different external objects. So when we find no such sensible quality in the thing that produced it, we are quick enough to conclude that the production of any sensible quality in any subject is an effect of mere power. We do not take it to be the communication of some quality that was really in the efficient cause.

But our senses cannot discover any unlikeness between the idea produced in us and the quality of the object producing it. So we tend to imagine that our ideas are resemblances of something in the objects. We do not take them to be the effects of certain powers lodged in the modification of their

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	primary qualities, with which primary qualities the ideas produced in us have no resemblance.	primary qualities, although the ideas produced in us have no resemblance to those primary qualities.
2.8.26	*Secondary qualities twofold; first, immediately perceivable; secondly, mediately perceivable.*—To conclude: beside those before-mentioned primary qualities in bodies, viz. bulk, figure, extension, number, and motion of their solid parts; all the rest whereby we take notice of bodies, and distinguish them one from another, are nothing else but several powers in them depending on those primary qualities; whereby they are fitted, either by immediately operating on our bodies to produce several different ideas in us; or else, by operating on other bodies, so to change their primary qualities, as to render them capable of producing ideas in us different from what before they did. The former of these, I think, may be called secondary qualities, immediately perceivable: the latter, secondary qualities, mediately perceivable.	*Secondary qualities twofold; first, immediately perceivable; secondly, mediately perceivable.*—To conclude: apart from the primary qualities in bodies mentioned before, namely, the bulk, figure, extension, number, and motion of their solid parts, all the rest by which we take notice of bodies and distinguish them from one another are nothing but various powers in them. These powers depend on those primary qualities. They fit bodies either to produce various different ideas in us by operating directly on our bodies, or else to operate on other bodies and change their primary qualities, so that those bodies can produce ideas in us different from the ones they produced before. The former, I think, may be called secondary qualities immediately perceivable; the latter, secondary qualities mediately perceivable.

PERCEPTION

Perception is the first idea of reflection, and judgment silently alters what the senses deliver.

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2.9.1	*Perception the first simple idea of reflection.*—Perception, as it is the first faculty of the mind, exercised about our ideas; so it is the first and simplest idea we have from reflection, and is by some called thinking in general. Though thinking, in the propriety of the English tongue, signifies that sort of operation in the mind about its ideas, wherein the mind is active; where it, with some degree of voluntary attention, considers any thing. For in bare naked perception, the mind is, for the most part, only passive; and what it perceives, it cannot avoid perceiving.	*Perception the first simple idea of reflection.*—Perception is the first faculty of the mind exercised about our ideas, and so it is also the first and simplest idea we have from reflection. Some call it thinking in general. But in proper English, thinking means the sort of operation of the mind about its ideas in which the mind is active, when it considers something with some degree of voluntary attention. For in bare, naked perception the mind is, for the most part, only passive, and what it perceives, it cannot avoid perceiving.
2.9.2	*Perception is only when the mind receives the impression.*—What perception is, every one will know better by reflecting on what he does himself, what he sees, hears, feels, &c. or thinks, than by any discourse of mine. Whoever reflects on what passes in his own mind, cannot miss it; and if he does not reflect, all the words in the world cannot make him have any notion of it.	*Perception is only when the mind receives the impression.*—Everyone will know what perception is better by reflecting on what he himself does when he sees, hears, feels, and so on, or thinks, than by any discussion of mine. Whoever reflects on what goes on in his own mind cannot miss it. And if he does not reflect, all the words in the world cannot give him any notion of it.
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This is certain, that whatever alterations are made in the body, if they reach not the mind; whatever impressions are made on the outward parts, if they are not taken notice of within; there is no perception. Fire may burn our bodies, with no other effect than it does a billet, unless the motion be continued to the brain, and there the sense of heat, or idea of pain, be produced in the mind, wherein consists actual perception.

2.9.4 How often may a man observe in himself, that whilst his mind is intently employed in the contemplation of some objects, and curiously surveying some ideas that are there, it takes no notice of impressions of sounding bodies made upon the organ of hearing with the same alteration that uses to be for the producing the idea of sound. A sufficient impulse there may be on the organ; but if not reaching the observation of the mind, there follows no perception; and though the motion that uses to produce the idea of sound be made in the ear, yet no sound is heard.

Want of sensation, in this case, is not through any defect in the organ, or that the man's ears are less affected than at other times when he does hear: but that which uses to produce the idea, though conveyed in by the usual organ, not being taken notice of in the understanding, and so imprinting no idea in the mind, there follows no sensation. So that wherever there is sense, or perception, there some idea is actually produced and present in the understanding.

2.9.5 *Children, though they have ideas in the womb, have none innate.*—Therefore, I doubt not but children, by the exercise of their senses about objects that affect them in the womb, receive some few ideas before they are born; as the unavoidable effects, either of the bodies that environ them, or else of those wants or diseases they suffer: among which (if one may conjecture concerning things not very capable of examination) I think the ideas of hunger and warmth are two; which probably are some of the first that children have, and which they scarce ever part with again.

2.9.6 But though it be reasonable to imagine that children receive some ideas before they come into the world, yet those simple ideas are far from

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This much is certain. Whatever alterations are made in the body, if they do not reach the mind, and whatever impressions are made on the outward parts, if they are not noticed within, there is no perception. Fire may burn our bodies with no more effect than it has on a log, unless the motion is carried on to the brain and the sense of heat, or the idea of pain, is produced there in the mind. It is in this that actual perception consists.

How often a man can observe this in himself! While his mind is intently occupied in contemplating some objects and closely surveying some ideas there, it takes no notice of the impressions that sounding bodies make on the organ of hearing, even when they make the same alteration that normally produces the idea of sound. There may be a sufficient impulse on the organ. But if it does not reach the mind's observation, no perception follows. And though the motion that normally produces the idea of sound is made in the ear, no sound is heard.

The lack of sensation in this case is not due to any defect in the organ. Nor is it that the man's ears are less affected than at other times when he does hear. What normally produces the idea is conveyed in by the usual organ, but it is not noticed in the understanding. So it imprints no idea on the mind, and no sensation follows. Wherever there is sense or perception, then, some idea is actually produced and present in the understanding.

Children, though they have ideas in the womb, have none innate.—So I do not doubt that children receive a few ideas before they are born, by the exercise of their senses on objects that affect them in the womb. These are the unavoidable effects either of the bodies that surround them or of the wants or disorders they suffer. Among these (if one may guess about things not very open to examination), I think the ideas of hunger and warmth are two. These are probably among the first ideas children have, and they hardly ever part with them again.

But though it is reasonable to imagine that children receive some ideas before they come into the world, those simple ideas are far from the innate

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those innate principles which some contend for, and we above have rejected.

These here mentioned being the effects of sensation, are only from some affections of the body, which happen to them there, and so depend on something exterior to the mind; no otherwise differing in their manner of production from other ideas derived from sense, but only in the precedency of time; whereas those innate principles are supposed to be quite of another nature, not coming into the mind by any accidental alterations in, or operations on, the body; but, as it were, original characters impressed upon it in the very first moment of its being and constitution.

2.9.7 *Which ideas first, is not evident.*—As there are some ideas which we may reasonably suppose may be introduced into the minds of children in the womb, subservient to the necessities of their life and being there; so, after they are born, those ideas are the earliest imprinted which happen to be the sensible qualities which first occur to them: among which light is not the least considerable, nor of the weakest efficacy. And how covetous the mind is to be furnished with all such ideas as have no pain accompanying them, may be a little guessed by what is observable in children new-born, who always turn their eyes to that part from whence the light comes, lay them how you please.

But the ideas that are most familiar at first being various, according to the divers circumstances of children's first entertainment in the world, the order wherein the several ideas come at first into the mind is very various and uncertain also; neither is it much material to know it.

2.9.8 *Ideas of sensation often changed by the judgment.*—We are further to consider concerning perception, that the ideas we receive by sensation are often in grown people altered by the judgment, without our taking notice of it. When we set before our eyes a round globe, of any uniform colour, v.

g. gold, alabaster, or jet, it is certain that the idea thereby imprinted in our mind is of a flat circle variously shadowed, with several degrees of light and brightness coming to our eyes; but we having by use been accustomed to perceive what kind of

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principles that some argue for and that we rejected above.

The ideas mentioned here are effects of sensation. They come only from certain affections of the body that happen to children in the womb, and so they depend on something outside the mind. They differ from other ideas derived from the senses in the way they are produced only by coming earlier in time. Innate principles, by contrast, are supposed to be of quite another nature. They are not supposed to come into the mind through any chance alterations in, or operations on, the body. They are supposed to be, as it were, original characters stamped on it in the very first moment of its being and constitution.

Which ideas first, is not evident.—We may reasonably suppose that some ideas are brought into the minds of children in the womb, serving the needs of their life and existence there. In the same way, after they are born, the earliest ideas imprinted are those of whatever sensible qualities they happen to meet first. Among these, light is not the least considerable, nor the weakest in its effect. How eager the mind is to be furnished with all such ideas as have no pain accompanying them may be guessed a little from newborn children. However you lay them, they always turn their eyes toward the place the light comes from.

But the ideas that are most familiar at first vary with the different circumstances in which children are first received into the world. So the order in which the various ideas first come into the mind is also very various and uncertain. Nor is it very important to know it.

Ideas of sensation often changed by the judgment.—We must further consider, about perception, that in grown people the ideas received by sensation are often altered by the judgment without our noticing it. When we set before our eyes a round globe of some uniform color,

of gold, alabaster, or jet, for example, it is certain that the idea it imprints in our mind is of a flat circle, variously shaded, with various degrees of light and brightness coming to our eyes. But by use we have become accustomed to perceiving

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appearance convex bodies are wont to make in us, what alterations are made in the reflections of light by the difference of the sensible figures of bodies, the judgment presently, by an habitual custom, alters the appearances into their causes; so that from that which is truly variety of shadow or colour, collecting the figure it makes it pass for a mark or figure, and frames to itself the perception of a convex figure and a uniform colour: when the idea we receive from thence is only a plane, variously coloured, as is evident in painting.

To which purpose I shall here insert a problem of that ingenious and studious promoter of real knowledge, the learned and worthy Mr Molineaux, which he was pleased to send me in a letter some months since; and it is this: suppose a man born blind and now adult, and taught by his touch to distinguish between a cube and a sphere of the same metal, and nighly of the same bigness, so as to tell when he felt one and the other, which is the cube, which the sphere.

Suppose then the cube and the sphere placed on a table, and the blind man be made to see: quære, "whether by his sight, before he touched them, he could now distinguish and tell which is the globe, which the cube?" to which the acute and judicious proposer answers, not. For though he has obtained the experience of how a globe, how a cube affects his touch; yet he has not yet obtained the experience, that what affects his touch so or so, must affect his sight so or so; or that a protuberant angle in the cube that pressed his hand unequally shall appear to his eye as it does in the cube.

I agree with this thinking gentleman, whom I am proud to call my friend, in his answer to this his problem; and am of opinion that the blind man, at first sight, would not be able with certainty to say, which was the globe, which the cube, whilst he only saw them: though he could unerringly name them by his touch, and certainly distinguish them by the difference of their figures felt.

This I have set down, and leave with my reader, as an occasion for him to consider how much he

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what kind of appearance convex bodies usually make in us, and what alterations are made in the reflections of light by differences in the sensible figures of bodies. So the judgment at once, out of habitual custom, alters the appearances into their causes. From what is really a variety of shadow or color, it infers the figure and makes the shading pass for a mark of figure. It frames for itself the perception of a convex figure and a uniform color, when the idea we receive is only a plane, variously colored, as is evident in painting.

On this point I will insert a problem from that ingenious and studious promoter of real knowledge, the learned and worthy Mr. Molyneux, which he was kind enough to send me in a letter some months ago. It is this. Suppose a man born blind, and now adult, who has been taught by touch to distinguish between a cube and a sphere of the same metal and of nearly the same size, so that he can tell which is the cube and which the sphere when he feels one and the other.[11]

Suppose then that the cube and the sphere are placed on a table, and the blind man is made to see. Query: “whether by his sight, before he touched them, he could now distinguish and tell which is the globe, which the cube?” The acute and judicious proposer answers: no. The man has gained experience of how a globe and how a cube affect his touch. But he has not yet gained the experience that what affects his touch in this way or that must affect his sight in this way or that. Nor has he learned that a protruding angle in the cube, which pressed his hand unevenly, will appear to his eye as it does in the cube.

I agree with this thoughtful gentleman, whom I am proud to call my friend, in his answer to his problem. I am of the opinion that the blind man, at first sight, would not be able to say with certainty which was the globe and which the cube while he only saw them. Yet he could name them without error by touch, and would certainly distinguish them by the difference of the shapes he felt.

I have set this down and leave it with my reader, as an occasion for him to consider how much he

11 William Molyneux (1656–1698), Irish natural philosopher and writer on optics. He sent Locke this problem in a letter of 1693, and Locke added it to the second edition (1694).

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may be beholden to experience, improvement, and acquired notions, where he thinks he had not the least use of, or help from them: and the rather, because this observing gentleman farther adds, that having, upon the occasion of my book, proposed this to divers very ingenious men, he hardly ever met with one, that at first gave the answer to it which he thinks true, till by hearing his reasons they were convinced.

2.9.9 But this is not, I think, usual in any of our ideas but those received by sight: because sight, the most comprehensive of all our senses, conveying to our minds the ideas of light and colours, which are peculiar only to that sense; and also the far different ideas of space, figure, and motion, the several varieties whereof change the appearance of its proper object, viz. light and colours; we bring ourselves by use to judge of the one by the other.

This, in many cases, by a settled habit, in things whereof we have frequent experience, is performed so constantly, and so quick, that we take that for the reception of our sensation which is an idea formed by our judgment: so that one, viz. that of sensation, serves only to excite the other, and is scarce taken notice of itself: as a man who reads or hears with attention and understanding, takes little notice of the characters or sounds, but of the ideas that are excited in him by them.

2.9.10 Nor need we wonder that this is done with so little notice, if we consider how very quick the actions of the mind are performed: for as itself is thought to take up no space, to have no extension, so its actions seem to require no time, but many of them seem to be crowded into an instant. I speak this in comparison to the actions of the body. Any one may easily observe this in his own thoughts, who will take the pains to reflect on them.

How, as it were in an instant, do our minds with one glance see all the parts of a demonstration, which may very well be called a long one, if we consider the time it will require to put it into words, and step by step show it another? Secondly, we shall not be so much surprised that this is done in us with so little notice, if we consider how the facility which we get of doing

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may owe to experience, improvement, and acquired notions, where he thinks he had not the least use of them or help from them. I do so all the more because this observant gentleman adds something further. Prompted by my book, he proposed this problem to a number of very ingenious men, and he hardly ever met one who at first gave the answer he thinks true, until they heard his reasons and were convinced.

But this does not usually happen, I think, with any of our ideas except those received by sight. Sight is the most comprehensive of all our senses. It conveys to our minds the ideas of light and colors, which belong to that sense alone. It also conveys the very different ideas of space, figure, and motion, whose many variations change the appearance of its proper object, namely, light and colors. So by use we bring ourselves to judge of the one by the other.

In many cases, with things of which we have frequent experience, settled habit makes this happen so constantly and so quickly that we take for the reception of our sensation what is really an idea formed by our judgment. The one, namely, the idea of sensation, serves only to call up the other, and is itself hardly noticed. In the same way, a man who reads or listens with attention and understanding takes little notice of the letters or sounds, and attends to the ideas they call up in him.

Nor need we wonder that this happens with so little notice, if we consider how very quickly the actions of the mind are performed. The mind itself is thought to take up no space and have no extension, and in the same way its actions seem to require no time. Many of them seem to be crowded into an instant. I say this in comparison with the actions of the body. Anyone who will take the trouble to reflect on his own thoughts can easily observe this in them.

How our minds, as it were in an instant, see at one glance all the parts of a demonstration, which may well be called a long one if we consider the time it will take to put it into words and show it to someone else step by step! Second, we will not be so surprised that this happens in us with so little notice if we consider the ease we gain in doing things through the custom of doing them. That

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things, by a custom of doing, makes them often pass in us without our notice. Habits, especially such as are begun very early, come at last to produce actions in us which often escape our observation.

How frequently do we, in a day, cover our eyes with our eyelids, without perceiving that we are at all in the dark! Men that by custom have got the use of a by-word, do almost in every sentence pronounce sounds which, though taken notice of by others, they themselves neither hear nor observe; and therefore it is not so strange that our mind should often change the idea of its sensation into that of its judgment, and make one serve only to excite the other, without our taking notice of it.

2.9.11 *Perception puts the difference between animals and inferior beings.*—This faculty of perception seems to me to be that which puts the distinction betwixt the animal kingdom and the inferior parts of nature. For however vegetables have, many of them, some degrees of motion, and upon the different application of other bodies to them, do very briskly alter their figures and motions, and so have obtained the name of sensitive plants, from a motion which has some resemblance to that which in animals follows upon sensation; yet I suppose it is all bare mechanism, and no otherwise produced than the turning of a wild oat-beard, by the insinuation of the particles of moisture, or the shortening of a rope by the affusion of water; all which is done without any sensation in the subject, or the having or receiving any ideas.

2.9.12 Perception, I believe, is in some degree in all sorts of animals; though in some, possibly, the avenues provided by nature for the reception of sensations are so few, and the perception they are received with so obscure and dull, that it comes extremely short of the quickness and variety of sensation which are in other animals; but yet it is sufficient for, and wisely adapted to, the state and condition of that sort of animals who are thus made; so that the wisdom and goodness of the Maker plainly appear in all the parts of this stupendous fabric, and all the several degrees and ranks of creatures in it.

2.9.13 We may, I think, from the make of an oyster or cockle, reasonably conclude that it has not so

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ease often makes them pass in us without our noticing. Habits, especially those begun very early, come at last to produce actions in us that often escape our observation.

How often in a day we cover our eyes with our eyelids without perceiving that we are in the dark at all! People who have picked up a pet phrase by custom utter it in almost every sentence. Others notice those sounds, but they themselves neither hear nor observe them. So it is not so strange that our mind should often change the idea of its sensation into that of its judgment, and make the one serve only to call up the other, without our noticing it.

Perception puts the difference between animals and inferior beings.—This faculty of perception seems to me to be what marks the distinction between the animal kingdom and the lower parts of nature. Many plants have some degree of motion, and when other bodies touch them in different ways they very briskly change their shapes and motions. So they have been given the name of sensitive plants, from a motion that somewhat resembles what follows sensation in animals. Yet I suppose it is all mere mechanism. It is produced in no other way than the turning of a wild oat's beard when particles of moisture work their way into it, or the shortening of a rope when water is poured on it. All this is done without any sensation in the subject, and without its having or receiving any ideas.

Perception, I believe, exists to some degree in all sorts of animals. In some, possibly, the avenues nature has provided for receiving sensations are so few, and the perception that receives them is so obscure and dull, that it falls far short of the quickness and variety of sensation found in other animals. Yet it is sufficient for the state and condition of the sort of animals made in this way, and wisely suited to it. So the wisdom and goodness of the Maker plainly appear in all the parts of this stupendous structure, and in all the various degrees and ranks of creatures in it.

We may reasonably conclude, I think, from the make of an oyster or cockle, that it does not have

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many nor so quick senses as a man, or several other animals; nor if it had, would it, in that state and incapacity of transferring itself from one place to another, be bettered by them. What good would sight and hearing do to a creature that cannot move itself to or from the objects wherein at a distance it perceives good or evil? And would not quickness of sensation be an inconvenience to an animal that must lie still, where chance has once placed it; and there receive the afflux of colder or warmer, clean or foul water, as it happens to come to it?

2.9.14 But yet I cannot but think there is some small dull perception whereby they are distinguished from perfect insensibility. And that this may be so, we have plain instances even in mankind itself. Take one, in whom decrepit old age has blotted out the memory of his past knowledge, and clearly wiped out the ideas his mind was formerly stored with: and has, by destroying his sight, hearing, and smell quite, and his taste to a great degree, stopped up almost all the passages for new ones to enter; or, if there be some of the inlets yet half open, the impressions made are scarce perceived, or not at all retained.

How far such an one (notwithstanding all that is boasted of innate principles) is in his knowledge and intellectual faculties above the condition of a cockle or an oyster, I leave to be considered. And if a man had passed sixty years in such a state, as it is possible he might, as well as three days, I wonder what difference there would have been, in any intellectual perfections, between him and the lowest degree of animals.

2.9.15 *Perception the inlet of knowledge.*—Perception then being the first step and degree towards knowledge, and the inlet of all the materials of it, the fewer senses any man, as well as any other creature, hath, and the fewer and duller the impressions are that are made by them, and the duller the faculties are that are employed about them, the more remote are they from that knowledge which is to be found in some men. But this being in great variety of degrees (as may be perceived among men) cannot certainly be discovered in the several species of animals, much less in their particular individuals.

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as many senses as a man or various other animals, nor such quick ones. And if it had them, it would not be better off for them, given its state and its inability to move itself from one place to another. What good would sight and hearing do a creature that cannot move toward or away from the objects in which it perceives good or evil at a distance? And would not quickness of sensation be a nuisance to an animal that must lie still wherever chance has once put it? There it must take in the inflow of colder or warmer, clean or foul water, as it happens to come.

Still, I cannot help thinking that they have some small, dull perception that distinguishes them from complete insensibility. And that this may be so, we have plain instances even in mankind itself. Take a man in whom decrepit old age has blotted out the memory of his past knowledge and wiped clean the ideas his mind was once stocked with. By destroying his sight, hearing, and smell entirely, and his taste to a great degree, it has also stopped up almost all the passages by which new ideas could enter. Or, if some of these inlets are still half open, the impressions made through them are hardly perceived, or not retained at all.

How far such a person (whatever is boasted about innate principles) is above the condition of a cockle or an oyster in his knowledge and intellectual faculties, I leave to others to consider. And if a man had spent sixty years in such a state, as he might just as well as three days, I wonder what difference there would be, in any intellectual perfections, between him and the lowest kind of animal.

Perception the inlet of knowledge.—Perception, then, is the first step and degree toward knowledge, and the inlet of all its materials. So the fewer senses any man, or any other creature, has, the fewer and duller the impressions they make, and the duller the faculties employed on them, the further he is from the knowledge found in some men. But since this comes in a great variety of degrees (as can be seen among men), it cannot be determined with certainty in the various species of animals, still less in their individual members.

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It suffices me only to have remarked here, that perception is the first operation of all our intellectual faculties, and the inlet of all knowledge in our minds: and I am apt, too, to imagine that it is perception, in the lowest degree of it, which puts the boundaries between animals and the inferior ranks of creatures. But this I mention only as my conjecture by the by; it being indifferent to the matter in hand which way the learned shall determine of it.

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It is enough for me simply to have remarked here that perception is the first operation of all our intellectual faculties, and the inlet of all knowledge into our minds. I am also inclined to think that it is perception, in its lowest degree, that marks the boundary between animals and the lower ranks of creatures. But I mention this only as a conjecture in passing; it makes no difference to the matter at hand which way the learned decide it.

RETENTION AND MEMORY

The mind keeps ideas by contemplation and memory, and ideas fade unless they are renewed.

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2.10.1 *Contemplation.*—The next faculty of the mind, whereby it makes a farther progress toward knowledge, is that which I call retention, or the keeping of those simple ideas which from sensation or reflection it hath received. This is done two ways; first by keeping the idea, which is brought into it, for some time actually in view; which is called contemplation.

2.10.2 *Memory.*—The other way of retention is the power to revive again in our minds those ideas which, after imprinting, have disappeared, or have been as it were laid aside out of sight: and thus we do when we conceive heat or light, yellow or sweet, the object being removed. This is memory, which is as it were the store-house of our ideas. For the narrow mind of man not being capable of having many ideas under view and consideration at once, it was necessary to have a repository to lay up those ideas, which at another time it might have use of.

But our ideas being nothing but actual perceptions in the mind, which cease to be any thing when there is no perception of them, this laying up of our ideas in the repository of the memory signifies no more but this, that the mind has a power in many cases to revive perceptions which it once had, with this additional perception annexed to them, that it has had them before.

And in this sense it is, that our ideas are said to be in our memories, when indeed they are actually nowhere, but only there is an ability in the mind when it will to revive them again, and as it were paint them anew on itself, though some with more, some with less difficulty; some more lively,

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Contemplation.—The next faculty of the mind by which it makes further progress toward knowledge is what I call retention: the keeping of the simple ideas it has received from sensation or reflection. This is done in two ways. The first is by keeping an idea that has been brought into it actually in view for some time. This is called contemplation.

Memory.—The other way of retention is the power to revive in our minds ideas that, after being imprinted, have disappeared, or have been laid aside out of sight, as it were. This is what we do when we conceive heat or light, yellow or sweet, after the object has been removed. This is memory, which is, as it were, the storehouse of our ideas. The narrow mind of man cannot have many ideas in view and under consideration at once, so it needed a repository in which to lay up ideas it might have use for at another time.

But our ideas are nothing but actual perceptions in the mind, which cease to be anything when there is no perception of them. So this laying up of our ideas in the repository of the memory means no more than this: the mind has a power, in many cases, to revive perceptions it once had, with this additional perception attached to them, that it has had them before.

It is in this sense that our ideas are said to be in our memories, when in fact they are actually nowhere. There is only an ability in the mind to revive them when it wants to, and, as it were, paint them anew on itself. Some it revives with

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and others more obscurely. And thus it is, by the assistance of this faculty, that we are to have all those ideas in our understandings, which, though we do not actually contemplate, yet we can bring in sight, and make appear again, and be the objects of our thoughts, without the help of those sensible qualities which first imprinted them there.

2.10.3 *Attention, repetition, pleasure, and pain, fix ideas.*—Attention and repetition help much to the fixing any ideas in the memory: but those which naturally at first make the deepest and most lasting impression are those which are accompanied with pleasure or pain.

The great business of the senses being to make us take notice of what hurts or advantages the body, it is wisely ordered by nature (as has been shown) that pain should accompany the reception of several ideas: which supplying the place of consideration and reasoning in children, and acting quicker than consideration in grown men, makes both the old and young avoid painful objects with that haste which is necessary for their preservation; and, in both, settles in the memory a caution for the future.

2.10.4 *Ideas fade in the memory.*—Concerning the several degrees of lasting, wherewith ideas are imprinted on the memory, we may observe that some of them have been produced in the understanding by an object affecting the senses once only, and no more than once; others, that have more than once offered themselves to the senses, have yet been little taken notice of: the mind either heedless, as in children, or otherwise employed, as in men, intent only on one thing, not setting the stamp deep into itself: and in some, where they are set on with care and repeated impressions, either through the temper of the body, or some other fault, the memory is very weak.

In all these cases, ideas in the mind quickly fade, and often vanish quite out of the understanding, leaving no more footsteps or remaining characters of themselves than shadows do flying over fields of corn; and the mind is as void of them as if they had never been there.

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more difficulty and some with less, some more vividly and others more obscurely. And so it is by the help of this faculty that we can be said to have in our understandings all those ideas that we are not actually contemplating. We can bring them into sight, make them appear again, and make them the objects of our thoughts, without the help of the sensible qualities that first imprinted them there.

Attention, repetition, pleasure, and pain fix ideas.—Attention and repetition help a great deal in fixing ideas in the memory. But the ideas that naturally make the deepest and most lasting impression from the start are those accompanied by pleasure or pain.

The great business of the senses is to make us notice what harms or benefits the body. So nature has wisely arranged (as has been shown) that pain should accompany the reception of several ideas. Pain takes the place of consideration and reasoning in children, and acts more quickly than consideration in grown men. It therefore makes old and young alike avoid painful objects with the speed their preservation requires, and in both it settles in the memory a caution for the future.

Ideas fade in the memory.—As to the different degrees of lastingness with which ideas are imprinted on the memory, we may observe the following. Some of them have been produced in the understanding by an object affecting the senses once only, and never again. Others have presented themselves to the senses more than once, but have been little noticed: the mind does not set the stamp deep into itself, either because it is heedless, as in children, or because it is busy with other things, as in men intent on one thing only. And in some people, even where ideas are impressed with care and repeated impressions, the memory is very weak, whether through the constitution of the body or some other fault.

In all these cases the ideas in the mind quickly fade, and often vanish entirely from the understanding. They leave no more footprints or lingering traces of themselves than shadows do flying over fields of grain, and the mind is as empty of them as if they had never been there.

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Thus many of those ideas which were produced in the minds of children, in the beginning of their sensation, (some of which, perhaps, as of some pleasures and pains, were before they were born, and others in their infancy,) if in the future course of their lives they are not repeated again, are quite lost, without the least glimpse remaining of them.

This may be observed in those who by some mischance have lost their sight when they were very young, in whom the ideas of colours having been but slightly taken notice of, and ceasing to be repeated, do quite wear out; so that some years after there is no more notion nor memory of colours left in their minds than in those of people born blind.

The memory of some, it is true, is very tenacious, even to a miracle: but yet there seems to be a constant decay of all our ideas, even of those which are struck deepest, and in minds the most retentive; so that if they be not sometimes renewed by repeated exercises of the senses, or reflection on those kinds of objects which at first occasioned them, the print wears out, and at last there remains nothing to be seen. Thus the ideas, as well as children of our youth, often die before us: and our minds represent to us those tombs to which we are approaching; where, though the brass and marble remain, yet the inscriptions are effaced by time, and the imagery moulders away.

The pictures drawn in our minds are laid in fading colours, and if not sometimes refreshed, vanish and disappear. How much the constitution of our bodies and the make of our animal spirits are concerned in this, and whether the temper of the brain makes this difference, that in some it retains the characters drawn on it like marble, in others like freestone, and in others little better than sand, I shall not here inquire; though it may seem probable, that the constitution of the body does sometimes influence the memory; since we oftentimes find a disease quite strip the mind of all its ideas, and the flames of a fever in a few days calcine all those images to dust and confusion, which seemed to be as lasting as if graved in marble.

2.10.6 *Constantly repeated ideas can scarce be lost.*—But concerning the ideas themselves, it is easy to remark that those that are oftenest refreshed

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In this way many of the ideas produced in children's minds at the beginning of their sensation are completely lost, without the slightest glimpse of them remaining, if they are not repeated in the later course of their lives. (Some of these ideas, such as certain pleasures and pains, were perhaps there before they were born, and others came in their infancy.)

This may be observed in those who lost their sight by some misfortune when they were very young. In them the ideas of colors were only slightly noticed and then no longer repeated, so they wear out entirely. Some years later there is no more notion or memory of colors left in their minds than in the minds of people born blind.

It is true that the memory of some people is very tenacious, almost miraculously so. Still, there seems to be a constant decay of all our ideas, even of those struck deepest and in the most retentive minds. If they are not renewed now and then by repeated exercise of the senses, or by reflection on the kinds of objects that first occasioned them, the print wears out, and at last nothing remains to be seen. Thus the ideas of our youth, like the children of our youth, often die before us. Our minds show us the tombs we are approaching, where the brass and marble remain, but time has effaced the inscriptions and the carvings have crumbled away.

The pictures drawn in our minds are laid on in fading colors, and if they are not refreshed now and then, they vanish and disappear. I will not inquire here how much the constitution of our bodies and the makeup of our animal spirits are involved in this. Nor will I ask whether the temper of the brain makes the difference, so that in some people it retains the characters drawn on it like marble, in others like freestone, and in others little better than sand. Yet it seems probable that the constitution of the body does sometimes influence the memory. We often find a disease stripping the mind of all its ideas, and the flames of a fever in a few days reducing to dust and confusion images that seemed as lasting as if engraved in marble.

Constantly repeated ideas can scarcely be lost.—But as for the ideas themselves, it is easy to see which ones fix themselves best in the memory and re-

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(among which are those that are conveyed into the mind by more ways than one) by a frequent return of the objects or actions that produce them, fix themselves best in the memory, and remain clearest and longest there; and therefore those which are of the original qualities of bodies, viz.

solidity, extension, figure, motion, and rest; and those that almost constantly affect our bodies, as heat and cold: and those which are the affections of all kinds of beings, as existence, duration and number, which almost every object that affects our senses, every thought which employs our minds, bring along with them: these, I say, and the like ideas, are seldom quite lost whilst the mind retains any ideas at all.

2.10.7 *In remembering, the mind is often active.*—In this secondary perception, as I may so call it, or viewing again the ideas that are lodged in the memory, the mind is oftentimes more than barely passive; the appearance of those dormant pictures depending sometimes on the will. The mind very often sets itself on work in search of some hidden idea, and turns as it were the eye of the soul upon it; though sometimes too they start up in our minds of their own accord, and offer themselves to the understanding; and very often are roused and tumbled out of their dark cells into open daylight by turbulent and tempestuous passions, our affections bringing ideas to our memory, which had otherwise lain quiet and unregarded.

This farther is to be observed, concerning ideas lodged in the memory, and upon occasion revived by the mind, that they are not only (as the word revive imports) none of them new ones: but also that the mind takes notice of them, as of a former impression, and renews its acquaintance with them as with ideas it had known before; so that though ideas formerly imprinted are not all constantly in view, yet in remembrance they are constantly known to be such as have been formerly imprinted, *i. e.* in view, and taken notice of before by the understanding.

2.10.8 *Two defects in the memory, oblivion and slowness.*—Memory, in an intellectual creature, is necessary in the next degree to perception. It is of so great moment, that where it is wanting, all the rest of our faculties are in a great measure useless; and

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main clearest and longest there. They are those most often refreshed by a frequent return of the objects or actions that produce them, and these include the ideas conveyed into the mind by more than one way. Therefore the ideas of the original qualities of bodies, namely

solidity, extension, figure, motion, and rest; those that almost constantly affect our bodies, such as heat and cold; and those that are properties of all kinds of beings, such as existence, duration, and number, which almost every object that affects our senses and every thought that occupies our minds brings along with it: these, I say, and similar ideas, are seldom entirely lost while the mind retains any ideas at all.

In remembering, the mind is often active.—In this secondary perception, as I may call it, the viewing again of the ideas lodged in the memory, the mind is often more than merely passive. The appearance of those dormant pictures sometimes depends on the will. The mind very often sets itself to work searching for some hidden idea, and turns the eye of the soul on it, as it were. Sometimes, too, ideas start up in our minds of their own accord and present themselves to the understanding. And very often they are roused and tumbled out of their dark cells into open daylight by turbulent and stormy passions. In this way our feelings bring to memory ideas that would otherwise have lain quiet and unnoticed.

It should further be observed about ideas lodged in the memory and revived by the mind when occasion arises, that none of them are new ones, as the word "revive" implies. The mind also takes notice of them as of a former impression, and renews its acquaintance with them as ideas it has known before. So although ideas once imprinted are not all constantly in view, yet in remembering them we always know them to be ideas that were imprinted before, that is, ideas the understanding had in view and noticed before.

Two defects in the memory, oblivion and slowness.—In an intellectual creature, memory is next in necessity after perception. It is so important that where it is lacking, all the rest of our faculties are largely useless. Without the help of our memories we

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we, in our thoughts, reasonings, and knowledge, could not proceed beyond present objects, were it not for the assistance of our memories, wherein there may be two defects.

First, That it loses the idea quite, and so far it produces perfect ignorance; for since we can know nothing farther than we have the idea of it, when that is gone, we are in perfect ignorance.

Secondly, That it moves slowly, and retrieves not the ideas that it has, and are laid up in store, quick enough to serve the mind upon occasion. This, if it be to a great degree, is stupidity; and he who, through this default in his memory, has not the ideas that are really preserved there ready at hand when need and occasion call for them, were almost as good be without them quite, since they serve him to little purpose. The dull man, who loses the opportunity whilst he is seeking in his mind for those ideas that should serve his turn, is not much more happy in his knowledge than one that is perfectly ignorant.

It is the business therefore of the memory to furnish to the mind those dormant ideas which it has present occasion for; in the having them ready at hand on all occasions consists that which we call invention, fancy, and quickness of parts.

2.10.9 These are defects, we may observe, in the memory of one man compared with another. There is another defect which we may conceive to be in the memory of man in general, compared with some superior created intellectual beings, which in this faculty may so far excel man, that they may have constantly in view the whole scene of all their former actions, wherein no one of the thoughts they have ever had may slip out of their sight. The omniscience of God, who knows all things, past, present, and to come, and to whom the thoughts of men's hearts always lie open, may satisfy us of the possibility of this.

For who can doubt but God may communicate to those glorious spirits, his immediate attendants, any of his perfections, in what proportions he pleases, as far as created finite beings can be capable? It is reported of that prodigy of parts, Monsieur Pascal, that till the decay of his health had impaired his memory, he forgot nothing of what he had done, read, or thought, in any part of his rational age. This is a privilege so little known

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could not go beyond present objects in our thoughts, reasonings, and knowledge. In memory there may be two defects.

First, it may lose the idea entirely, and to that extent it produces complete ignorance. We can know nothing beyond what we have the idea of, so when that is gone we are completely ignorant.

Second, it may move slowly, and fail to retrieve the ideas it has laid up in store quickly enough to serve the mind when needed. If this is to a great degree, it is stupidity. Suppose that someone, through this failing of memory, does not have the ideas really preserved there ready at hand when need and occasion call for them. He might almost as well be without them altogether, since they are of little use to him. The dull man, who loses the opportunity while he is searching his mind for the ideas that would serve his turn, is not much happier in his knowledge than someone completely ignorant.

It is the business of the memory, therefore, to supply the mind with those dormant ideas it has present need of. What we call invention, imagination, and quickness of mind consists in having them ready at hand on every occasion.

These are defects, we may note, in the memory of one man compared with another. We may conceive another defect in the memory of mankind in general, compared with some higher created intellectual beings. These beings may so far excel man in this faculty that they can have constantly in view the whole scene of all their former actions, without any of the thoughts they have ever had slipping out of sight. The omniscience of God, who knows all things past, present, and to come, and to whom the thoughts of men’s hearts always lie open, may satisfy us that this is possible.

For who can doubt that God may communicate any of his perfections to those glorious spirits who are his immediate attendants, in whatever proportions he pleases, as far as created finite beings are capable of them? It is reported of that prodigy of talent, Monsieur Pascal, that until the decline of his health impaired his memory, he forgot nothing of what he had done, read, or thought at any time since he reached the age of reason. This privilege

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to most men, that it seems almost incredible to those who, after the ordinary way, measure all others by themselves: but yet, when considered, may help us to enlarge our thoughts towards greater perfection of it in superior ranks of spirits.

For this of Mr Pascal was still with the narrowness that human minds are confined to here, of having great variety of ideas only by succession, not all at once; whereas the several degrees of angels may probably have larger views, and some of them be endowed with capacities able to retain together, and constantly set before them, as in one picture, all their past knowledge at once. This, we may conceive, would be no small advantage to the knowledge of a thinking man, if all his past thoughts and reasonings could be always present to him: and therefore we may suppose it one of those ways wherein the knowledge of separate spirits may exceedingly surpass ours.

2.10.10 *Brutes have memory.*—This faculty of laying up and retaining the ideas that are brought into the mind, several other animals seem to have to a great degree, as well as man: for, to pass by other instances, birds learning of tunes, and the endeavours one may observe in them to hit the notes right, put it past doubt with me that they have perception, and retain ideas in their memories, and use them for patterns: for it seems to me impossible that they should endeavour to conform their voices to notes (as it is plain they do) of which they had no ideas.

For though I should grant sound may mechanically cause a certain motion of the animal spirits, in the brains of those birds, whilst the tune is actually playing; and that motion may be continued on to the muscles of the wings, and so the bird mechanically be driven away by certain noises, because this may tend to the bird's preservation; yet that can never be supposed a reason why it should cause mechanically, either whilst the tune is playing, much less after it has ceased, such a motion of the organs in the bird's voice, as should conform it to the notes of a foreign sound, which imitation can be of no use to the bird's preservation.

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is so little known to most men that it seems almost incredible to those who, in the ordinary way, measure everyone else by themselves. Yet when considered, it may help us stretch our thoughts toward a still greater perfection of memory in higher ranks of spirits.[12]

For even Mr. Pascal's memory still had the narrowness to which human minds are confined here: it had a great variety of ideas only in succession, not all at once. The various orders of angels, by contrast, may probably have larger views. Some of them may be endowed with capacities able to retain together all their past knowledge at once, and keep it constantly before them as in one picture. We can imagine that it would be no small advantage to the knowledge of a thinking man if all his past thoughts and reasonings could always be present to him. And so we may suppose this to be one of the ways in which the knowledge of separate spirits may vastly surpass ours.

Animals have memory.—Several other animals seem to have this faculty of laying up and retaining the ideas brought into the mind, as man does, and to a great degree. To pass over other instances, consider birds learning tunes, and the efforts one can see them make to hit the notes right. These put it beyond doubt for me that they have perception, and retain ideas in their memories, and use them as patterns. It seems impossible to me that they should try to conform their voices to notes of which they had no ideas, as they plainly do.

Suppose I granted that sound may mechanically cause a certain motion of the animal spirits in the brains of those birds while the tune is actually playing. Suppose also that this motion may be carried on to the muscles of the wings, so that the bird is mechanically driven away by certain noises, because this may help the bird's preservation. Still, that can never be taken as a reason why the sound should mechanically cause such a motion of the organs of the bird's voice as would make it conform to the notes of a foreign sound. It could not do so while the tune is playing, and much less after it has stopped. And such imitation can be of no use to the bird's preservation.

12 Blaise Pascal (1623–1662), French mathematician, physicist, and religious writer, famous for his precocious genius.

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But, which is more, it cannot with any appearance of reason be supposed (much less proved) that birds, without sense and memory, can approach their notes nearer and nearer by degrees to a tune played yesterday, which, if they have no idea of in their memory, is nowhere, nor can be a pattern for them to imitate, or which any repeated essays can bring them nearer to: since there is no reason why the sound of a pipe should leave traces in their brains, which, not at first, but by their after endeavours, should produce the like sounds; and why the sounds they make themselves should not make traces which they should follow, as well as those of the pipe, is impossible to conceive.

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What is more, it cannot with any appearance of reason be supposed (much less proved) that birds without sense and memory could bring their notes by degrees nearer and nearer to a tune played yesterday. If they have no idea of that tune in their memory, it is nowhere. It cannot be a pattern for them to imitate, or something that repeated attempts could bring them closer to. There is no reason why the sound of a pipe should leave traces in their brains that would produce similar sounds, not at first, but through their later efforts. And it is impossible to conceive why the sounds they make themselves should not leave traces for them to follow just as well as those of the pipe.

DISCERNING AND OTHER OPERATIONS

Locke describes discerning, comparing, compounding, naming and abstracting, and how animals fall short.

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2.11.1 *No knowledge without discernment.*—Another faculty we may take notice of in our minds, is that of discerning and distinguishing between the several ideas it has. It is not enough to have a confused perception of something in general: unless the mind had a distinct perception of different objects, and their qualities, it would be capable of very little knowledge, though the bodies that affect us were as busy about us as they are now, and the mind were continually employed in thinking.

On this faculty of distinguishing one thing from another depends the evidence and certainty of several, even very general propositions, which have passed for innate truths; because men overlooking the true cause why those propositions find universal assent, impute it wholly to native uniform impressions, whereas in truth it depends upon this clear discerning faculty of the mind, whereby it perceives two ideas to be the same or different. But of this more hereafter.

2.11.2 *The difference of wit and judgment.*—How much the imperfection of accurately discriminating ideas one from another lies either in the dulness or faults of the organs of sense, or want of acuteness, exercise, or attention in the understanding, or hastiness and precipitancy, natural to some tempers, I will not here examine; it suffices to take notice, that this is one of the operations that

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No knowledge without discernment.—Another faculty we may notice in our minds is that of discerning and distinguishing between the various ideas the mind has. It is not enough to have a confused perception of something in general. Unless the mind had a distinct perception of different objects and their qualities, it would be capable of very little knowledge. That would be so even if the bodies that affect us were as busy around us as they are now, and the mind were continually occupied in thinking.

On this faculty of distinguishing one thing from another depend the evidence and certainty of several propositions, even very general ones, which have passed for innate truths. Men overlook the real reason why those propositions meet with universal assent, and put it down entirely to uniform impressions stamped on us from birth. In truth it depends on this clear discerning faculty of the mind, by which it perceives two ideas to be the same or different. But more of this later.

The difference between wit and judgment.—I will not examine here what causes our failure to discriminate ideas accurately from one another. It may be dullness or faults in the organs of sense, or lack of sharpness, exercise, or attention in the understanding, or the hastiness and rashness natural to some temperaments. It is enough to note that this

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the mind may reflect on and observe in itself. It is of that consequence to its other knowledge, that so far as this faculty is in itself dull, or not rightly made use of, for the distinguishing one thing from another, so far our notions are confused, and our reason and judgment disturbed or misled.

If in having our ideas in the memory ready at hand consists quickness of parts: in this of having them unconfused, and being able nicely to distinguish one thing from another, where there is but the least difference, consists, in a great measure, the exactness of judgment and clearness of reason, which is to be observed in one man above another.

And hence perhaps may be given some reason of that common observation, that men who have a great deal of wit, and prompt memories, have not always the clearest judgment or deepest reason: for wit lying most in the assemblage of ideas, and putting those together with quickness and variety, wherein can be found any resemblance or congruity, thereby to make up pleasant pictures and agreeable visions in the fancy; judgment, on the contrary, lies quite on the other side, in separating carefully, one from another, ideas, wherein can be found the least difference, thereby to avoid being misled by similitude, and by affinity to take one thing for another.

This is a way of proceeding quite contrary to metaphor and allusion, wherein for the most part lies that entertainment and pleasantry of wit which strikes so lively on the fancy, and therefore is so acceptable to all people, because its beauty appears at first sight, and there is required no labour of thought to examine what truth or reason there is in it. The mind, without looking any further, rests satisfied with the agreeableness of the picture, and the gayety of the fancy; and it is a kind of an affront to go about to examine it by the severe rules of truth and good reason; whereby it appears that it consists in something that is not perfectly conformable to them.

2.11.3 *Clearness alone hinders confusion.*—To the well distinguishing our ideas, it chiefly contributes that they be clear and determinate; and where they are so, it will not breed any confusion or mistake about them, though the senses should (as sometimes they do) convey them from the same

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is one of the operations the mind can reflect on and observe in itself. It matters so much to the mind's other knowledge that, to the extent this faculty is dull in itself or not rightly used for distinguishing one thing from another, to that extent our notions are confused, and our reason and judgment disturbed or misled.

Quickness of mind consists in having our ideas ready at hand in the memory. In the same way, one man shows more exactness of judgment and clearness of reason than another largely because he has his ideas unconfused, and can distinguish finely between one thing and another where there is only the slightest difference.

And this may perhaps explain the common observation that men with a great deal of wit and quick memories do not always have the clearest judgment or deepest reason. Wit lies mostly in assembling ideas. It puts together, quickly and with variety, those in which any resemblance or fit can be found, so as to make pleasant pictures and agreeable visions in the imagination. Judgment, on the contrary, lies at the opposite extreme. It carefully separates from one another ideas in which the slightest difference can be found, so as to avoid being misled by similarity and taking one thing for another because of their likeness.

This way of proceeding is quite contrary to metaphor and allusion. Metaphor and allusion are, for the most part, where the entertainment and charm of wit lie, which strike the imagination so vividly and are therefore so welcome to everyone. Their beauty appears at first sight, and no labor of thought is required to examine what truth or reason there is in them. The mind looks no further and rests content with the attractiveness of the picture and the gaiety of the imagination. It is even a kind of affront to set about examining wit by the strict rules of truth and good reason. This shows that wit consists in something not perfectly in accordance with them.

Clearness alone prevents confusion.—What chiefly helps us distinguish our ideas well is that they be clear and determinate. Where they are, no confusion or mistake about them will arise. This holds even if the senses should convey them from the same object differently on different occasions, as

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object differently on different occasions, and so seem to err: for though a man in a fever should from sugar have a bitter taste, which at another time would produce a sweet one, yet the idea of bitter in that man's mind would be as clear and distinct from the idea of sweet as if he had tasted only gall.

Nor does it make any more confusion between the two ideas of sweet and bitter, that the same sort of body produces at one time one, and at another time another idea by the taste, than it makes a confusion in two ideas of white and sweet, or white and round, that the same piece of sugar produces them both in the mind at the same time. And the ideas of orange colour and azure that are produced in the mind by the same parcel of infusion of lignum nephriticum, are no less distinct ideas than those of the same colours taken from two very different bodies.

2.11.4 *Comparing.*—The comparing them one with another, in respect of extent, degrees, time, place, or any other circumstances, is another operation of the mind about its ideas, and is that upon which depends all that large tribe of ideas comprehended under relations; which of how vast an extent it is, I shall have occasion to consider hereafter.

2.11.5 *Brutes compare but imperfectly.*—How far brutes partake in this faculty is not easy to determine; I imagine they have it not in any great degree; for though they probably have several ideas distinct enough, yet it seems to me to be the prerogative of human understanding, when it has sufficiently distinguished any ideas so as to perceive them to be perfectly different, and so consequently two, to cast about and consider in what circumstances they are capable to be compared; and, therefore, I think beasts compare not their ideas farther than some sensible circumstances annexed to the objects themselves.

The other power of comparing, which may be observed in men, belonging to general ideas, and useful only to abstract reasonings, we may probably conjecture beasts have not.

2.11.6 *Compounding.*—The next operation we may observe in the mind about its ideas, is

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they sometimes do, and so seem to err. A man with a fever might get a bitter taste from sugar, which at another time would produce a sweet one. Yet the idea of bitter in that man's mind would be as clear and distinct from the idea of sweet as if he had tasted only gall.

The same sort of body may produce one idea by taste at one time and another at another. But this causes no more confusion between the two ideas of sweet and bitter than the same piece of sugar causes between the two ideas of white and sweet, or white and round, when it produces both in the mind at the same time. And the ideas of orange and azure produced in the mind by the same infusion of lignum nephriticum are no less distinct ideas than those of the same colors taken from two very different bodies.[13]

Comparing.—Comparing ideas with one another in respect of extent, degree, time, place, or any other circumstances is another operation of the mind about its ideas. On it depends that whole large tribe of ideas included under relations. How vast its extent is I will have occasion to consider later.

Animals compare only imperfectly.—How far animals share in this faculty is not easy to determine. I imagine they do not have it to any great degree. They probably have several ideas that are distinct enough. But suppose the understanding has distinguished ideas well enough to perceive them to be perfectly different, and consequently two. To cast about then and consider in what circumstances they can be compared seems to me to be the prerogative of the human understanding. And so I think beasts compare their ideas no further than in respect of some sensible circumstances attached to the objects themselves.

Men may also be observed to have another power of comparing, which concerns general ideas and is useful only in abstract reasoning. We may probably conjecture that beasts do not have it.

Compounding.—The next operation we may observe in the mind about its ideas is composition. By it the mind puts together several of the simple

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composition, whereby it puts together several of those simple ones it has received from sensation and reflection, and combines them into complex ones. Under this of composition may be reckoned also that of enlarging, wherein, though the composition does not so much appear as in more complex ones, yet it is nevertheless a putting several ideas together, though of the same kind. Thus, by adding several units together, we make the idea of a dozen; and putting together the repeated ideas of several perches, we frame that of a furlong.

2.11.7 *Brutes compound but little.*—In this, also, I suppose, brutes come far short of men; for though they take in and retain together several combinations of simple ideas, as possibly the shape, smell, and voice of his master, make up the complex idea a dog has of him, or rather are so many distinct marks whereby he knows him; yet I do not think they do of themselves ever compound them, and make complex ideas.

And perhaps, even where we think they have complex ideas, it is only one simple one that directs them in the knowledge of several things, which possibly they distinguish less by their sight than we imagine; for I have been credibly informed that a bitch will nurse, play with, and be fond of young foxes, as much as, and in place of, her puppies, if you can but get them once to suck her so long that her milk may go through them.

And those animals which have a numerous brood of young ones at once, appear not to have any knowledge of their number; for though they are mightily concerned for any of their young that are taken from them whilst they are in sight or hearing, yet if one or two of them be stolen from them in their absence, or without noise, they appear not to miss them, or to have any sense that their number is lessened.

2.11.8 *Naming.*—When children have, by repeated sensations, got ideas fixed in their memories, they begin by degrees to learn the use of signs. And when they have got the skill to apply the organs of speech to the framing of articulate sounds, they begin to make use of words to signify their ideas

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ideas it has received from sensation and reflection and combines them into complex ones. Under composition we may also count enlarging. Here the composition is not as evident as in more complex ideas, but it is still a putting together of several ideas, though of the same kind. Thus by adding several units together we make the idea of a dozen, and by putting together the repeated ideas of several perches we form that of a furlong.

Animals compound but little.—In this too, I suppose, animals fall far short of men. They do take in and retain together several combinations of simple ideas. Possibly, for example, a master's shape, smell, and voice make up the complex idea a dog has of him, or rather are so many distinct marks by which he knows him. Yet I do not think animals ever compound such ideas of themselves and make complex ideas.

And perhaps, even where we think they have complex ideas, it is only one simple idea that guides them in recognizing several things, and they may distinguish these things less by sight than we imagine. I have been reliably informed that a female dog will nurse, play with, and be fond of young foxes as much as her own puppies, and in place of them. You only have to get the cubs to suck at her long enough for her milk to go through them.

And animals that have a large brood of young at once do not seem to have any knowledge of their number. They are greatly concerned about any of their young taken from them while they are within sight or hearing. Yet if one or two are stolen in their absence or without noise, they do not seem to miss them, or to have any sense that their number has decreased.

Naming.—When children have got ideas fixed in their memories by repeated sensations, they gradually begin to learn the use of signs. Once they have acquired the skill of using the organs of speech to form articulate sounds, they begin to use words to signify their ideas to others. They

13 Lignum nephriticum, a Mexican wood whose infusion in water looks golden-orange by transmitted light and blue by reflected light; Robert Boyle had described it.

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to others. These verbal signs they sometimes borrow from others, and sometimes make themselves, as one may observe among the new and unusual names children often give to things in the first use of language.

2.11.9 *Abstraction.*—The use of words then being to stand as outward marks of our internal ideas, and those ideas being taken from particular things, if every particular idea that we take in should have a distinct name, names must be endless. To prevent this, the mind makes the particular ideas, received from particular objects, to become general; which is done by considering them as they are in the mind, such appearances, separate from all other existences, and the circumstances of real existence, as time, place, or any other concomitant ideas. This is called abstraction, whereby ideas, taken from particular beings, becomes general representatives of all of the same kind, and their names general names, applicable to whatever exists conformable to such abstract ideas.

Such precise naked appearances on the mind, without considering how, whence, or with what others they came there, the understanding lays up (with names commonly annexed to them) as the standard to rank real existences into sorts, as they agree with these patterns, and to denominate them accordingly. Thus the same colour being observed to-day in chalk or snow, which the mind yesterday received from milk, it considers that appearance alone makes it a representative of all of that kind; and having given it the name whiteness, it by that sound signifies the same quality, wheresoever to be imagined or met with: and thus universals, whether ideas or terms, are made.

2.11.10 *Brutes abstract not.*—If it may be doubted, whether beasts compound and enlarge their ideas that way to any degree; this, I think, I may be positive in, that the power of abstracting is not at all in them; and that the having of general ideas is that which puts a perfect distinction between man and brutes, and is an excellency which the faculties of brutes do by no means attain to. For it is evident we observe no footsteps in them of making use of general signs for universal ideas; from which we have reason to imagine that they have not the faculty of abstracting, or making general ideas,

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sometimes borrow these verbal signs from others and sometimes make them up themselves. One can see this in the new and unusual names children often give things when they first begin to use language.

Abstraction.—The use of words, then, is to stand as outward marks of our inner ideas, and those ideas are taken from particular things. So if every particular idea we take in had its own name, names would have to be endless. To prevent this, the mind makes the particular ideas it receives from particular objects become general. It does this by considering them as they are in the mind, as such appearances, separate from all other existences and from the circumstances of real existence, such as time, place, or any other accompanying ideas. This is called abstraction. By it, ideas taken from particular beings become general representatives of all of the same kind, and their names become general names, applicable to whatever exists that conforms to such abstract ideas.

The understanding lays up such precise, bare appearances in the mind, usually with names attached to them, without considering how, from where, or with what others they came there. It keeps them as standards by which to rank real existences into sorts, according as they agree with these patterns, and to name them accordingly. Suppose the mind observes today in chalk or snow the same color it received yesterday from milk. It considers that appearance alone and makes it a representative of all of that kind. Having given it the name “whiteness,” it uses that sound to signify the same quality wherever it may be imagined or met with. And this is how universals, whether ideas or terms, are made.

Animals do not abstract.—It may be doubted whether beasts compound and enlarge their ideas in that way to any degree. But I think I can be positive about this: the power of abstracting is not in them at all. Having general ideas is what makes a complete distinction between man and animals, and it is an excellence the faculties of animals by no means attain. It is evident that we see no trace in them of using general signs for universal ideas. Since they have no use of words or of any other general signs, we have reason to think they lack

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since they have no use of words, or any other general signs.

2.11.11 Nor can it be imputed to their want of fit organs to frame articulate sounds, that they have no use or knowledge of general words; since many of them, we find, can fashion such sounds, and pronounce words distinctly enough, but never with any such application. And, on the other side, men, who, through some defect in the organs want words, yet fail not to express their universal ideas by signs, which serve them instead of general words; a faculty which we see beasts come short in.

And, therefore, I think we may suppose, that it is in this that the species of brutes are discriminated from man; and it is that proper difference wherein they are wholly separated, and which at last widens to so vast a distance: for if they have any ideas at all, and are not bare machines (as some would have them) we cannot deny them to have some reason. It seems as evident to me, that they do some of them in certain instances reason, as that they have sense: but it is only in particular ideas, just as they received them from their senses.

They are the best of them tied up within those narrow bounds, and have not (as I think) the faculty to enlarge them by any kind of abstraction.

2.11.12 *[The intellectually disabled and the mentally ill].*—How far *[the intellectually disabled]* are concerned in the want or weakness of any or all of the foregoing faculties, an exact observation of their several ways of faltering would no doubt discover: for those who either perceive but dully, or retain the ideas that come into their minds but ill, who cannot readily excite or compound them, will have little matter to think on. Those who cannot distinguish, compare, and abstract, would hardly be able to understand and make use of language, or judge, or reason, to any tolerable degree; but only a little and imperfectly about things present, and very familiar to their senses.

And, indeed, any of the forementioned faculties, if wanting, or out of order, produce suitable effects in men's understandings and knowledge.

2.11.13 In fine, the defect in *[the intellectually disabled]* seems to proceed from want of quickness,

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the faculty of abstracting, or making general ideas.

Nor can their having no use or knowledge of general words be put down to their lacking suitable organs for forming articulate sounds. We find that many of them can shape such sounds and pronounce words distinctly enough, but never with any such application. On the other side, men who lack words through some defect in their organs still manage to express their universal ideas by signs that serve them in place of general words. This is a faculty in which we see beasts fall short.

And so I think we may suppose that it is in this that the species of animals are set apart from man. This is the proper difference by which they are wholly separated, and which in the end widens to so vast a distance. For if they have any ideas at all, and are not mere machines (as some would have them), we cannot deny that they have some reason. It seems as evident to me that some of them do reason in certain cases as that they have sense. But they reason only about particular ideas, just as they received them from their senses.

Even the best of them are confined within those narrow limits, and do not, I think, have the faculty of enlarging them by any kind of abstraction.

The intellectually disabled and the mentally ill.—Careful observation of the various ways in which the intellectually disabled falter would no doubt reveal how far they are affected by the lack or weakness of any or all of the foregoing faculties. Those who perceive only dully, or retain poorly the ideas that come into their minds, or cannot readily call them up or compound them, will have little material to think about. Those who cannot distinguish, compare, and abstract would hardly be able to understand and use language, or to judge or reason to any tolerable degree. They could reason only a little and imperfectly, about things present and very familiar to their senses.

And indeed, any of the faculties mentioned above, if missing or disordered, produces corresponding effects in men’s understanding and knowledge.

In short, the defect in the intellectually disabled seems to come from a lack of quickness, activity,

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activity, and motion in the intellectual faculties, whereby they are deprived of reason; whereas *[the mentally ill]*, on the other side, seem to suffer by the other extreme; for they do not appear to me to have lost the faculty of reasoning; but having joined together some ideas very wrongly, they mistake them for truths, and they err as men do that argue right from wrong principles. For by the violence of their imaginations, having taken their fancies for realities, they make right deductions from them.

Thus you shall find a distracted man fancying himself a king, with a right inference require suitable attendance, respect, and obedience; others, who have thought themselves made of glass, have used the caution necessary to preserve such brittle bodies. Hence it comes to pass that a man, who is very sober, and of a right understanding in all other things, may in one particular be as frantic as any in Bedlam; if either by any sudden very strong impression, or long fixing his fancy upon one sort of thoughts, incoherent ideas have been cemented together so powerfully, as to remain united. But there are degrees of madness, as of folly; the disorderly jumbling ideas together is in some more, some less.

In short, herein seems to lie the difference between *[the intellectually disabled]* and *[the mentally ill]*, that *[the mentally ill]* put wrong ideas together, and so make wrong propositions, but argue and reason right from them; but *[the intellectually disabled]* make very few or no propositions, and reason scarce at all.

2.11.14 *Method.*—These, I think, are the first faculties and operations of the mind, which it makes use of in understanding; and though they are exercised about all its ideas in general, yet the instances I have hitherto given have been chiefly in simple ideas: and I have subjoined the explication of these faculties of the mind to that of simple ideas, before I come to what I have to say concerning complex ones, for these following reasons:

First, Because several of these faculties being exercised at first principally about simple ideas,

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and movement in the intellectual faculties, which deprives them of reason. The mentally ill, on the other hand, seem to suffer from the opposite extreme. They do not appear to me to have lost the faculty of reasoning. Rather, they have joined some ideas together very wrongly and mistake them for truths, and they err as men do who argue correctly from wrong principles. Through the violence of their imaginations they have taken their fancies for realities, and they draw correct conclusions from them.

Thus you will find a man whose mind is disordered imagining himself a king, and by a correct inference demanding suitable attendance, respect, and obedience. Others who have thought themselves made of glass have taken the precautions needed to preserve such fragile bodies. This is how a man who is very sober and sound in understanding in all other things may be as frantic on one particular point as anyone in Bedlam. It happens if incoherent ideas have been cemented together so firmly that they remain united, either through some sudden very strong impression or through long fixing his imagination on one sort of thought. But there are degrees of madness, as there are of intellectual weakness; the disorderly jumbling together of ideas is greater in some people and less in others.[14]

In short, the difference between the intellectually disabled and the mentally ill seems to lie in this. The mentally ill put wrong ideas together, and so make wrong propositions, but argue and reason correctly from them. The intellectually disabled make very few propositions or none, and hardly reason at all.

Method.—These, I think, are the first faculties and operations of the mind that it uses in understanding. They are exercised on all its ideas in general, but the examples I have given so far have been mainly of simple ideas. I have added the explanation of these faculties of the mind to that of simple ideas, before coming to what I have to say about complex ones, for the following reasons:

First, several of these faculties are exercised at first mainly on simple ideas. So by following

14 Bedlam: the Bethlem Royal Hospital in London, the city's asylum for the mentally ill.

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we might, by following nature in its ordinary method, trace and discover them in their rise, progress, and gradual improvements.

Secondly, Because observing the faculties of the mind, how they operate about simple ideas, which are usually, in most men's minds, much more clear, precise, and distinct than complex ones; we may the better examine and learn how the mind abstracts, denominates, compares, and exercises its other operations about those which are complex, wherein we are much more liable to mistake.

Thirdly, Because these very operations of the mind about ideas, received from sensations, are themselves, when reflected on, another set of ideas, derived from that other source of our knowledge which I call reflection, and therefore fit to be considered in this place after the simple ideas of sensation. Of compounding, comparing, abstracting, &c., I have but just spoken, having occasion to treat of them more at large in other places.

2.11.15 *These are the beginnings of human knowledge.*—And thus I have given a short, and, I think, true history of the first beginnings of human knowledge, whence the mind has its first objects, and by what steps it makes its progress to the laying in and storing up those ideas, out of which is to be framed all the knowledge it is capable of; wherein I must appeal to experience and observation, whether I am in the right; the best way to come to truth being to examine things as really they are, and not to conclude they are, as we fancy of ourselves, or have been taught by others to imagine.

2.11.16 *Appeal to experience.*—To deal truly, this is the only way that I can discover, whereby the ideas of things are brought into the understanding: if other men have either innate ideas, or infused principles, they have reason to enjoy them; and if they are sure of it, it is impossible for others to deny them the privilege that they have above their neighbours. I can speak but of what I find in myself, and is agreeable to those notions, which, if we will examine the whole course of men in their several ages, countries, and educations, seem to depend on those foundations which I

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nature in its ordinary course, we may trace and discover them in their origin, progress, and gradual improvement.

Second, in most men's minds simple ideas are usually much clearer, more precise, and more distinct than complex ones. So by observing how the faculties of the mind operate on simple ideas, we can better examine and learn how the mind abstracts, names, compares, and performs its other operations on complex ideas, where we are much more liable to make mistakes.

Third, these very operations of the mind on ideas received from sensation are themselves, when reflected on, another set of ideas. They derive from that other source of our knowledge which I call reflection, and so they are fit to be considered here, after the simple ideas of sensation. I have only touched briefly on compounding, comparing, abstracting, and so on, since I will have occasion to treat them at greater length elsewhere.

These are the beginnings of human knowledge.—And so I have given a short and, I think, true history of the first beginnings of human knowledge. It shows where the mind gets its first objects, and by what steps it progresses to laying in and storing up the ideas out of which all the knowledge it is capable of is to be framed. On whether I am right in this, I must appeal to experience and observation. The best way to arrive at truth is to examine things as they really are, and not to conclude that they are as we imagine on our own, or as others have taught us to imagine.

Appeal to experience.—To be honest, this is the only way I can discover by which the ideas of things are brought into the understanding. If other men have either innate ideas or infused principles, they have reason to enjoy them. And if they are sure of it, others cannot possibly deny them the privilege they have over their neighbors. I can speak only of what I find in myself, and of what agrees with certain notions. If we examine the whole course of men in their various ages, countries, and upbringings, these notions seem to depend on the foundations I have laid, and to correspond with this method in all its parts and degrees.

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have laid, and to correspond with this method in all the parts and degrees thereof.

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2.11.17 *Dark room.*—I pretend not to teach, but to inquire, and therefore cannot but confess here again, that external and internal sensation are the only passages that I can find of knowledge to the understanding. These alone, as far as I can discover, are the windows by which light is let into this dark room: for methinks the understanding is not much unlike a closet wholly shut from light, with only some little opening left, to let in external visible resemblances, or ideas of things without: would the pictures coming into such a dark room but stay there, and lie so orderly as to be found upon occasion, it would very much resemble the understanding of a man, in reference to all objects of sight and the ideas of them.

These are my guesses concerning the means whereby the understanding comes to have and retain simple ideas; and the modes of them, with some other operations about them. I proceed now to examine some of these simple ideas, and their modes, a little more particularly.

Dark room.—I do not claim to teach, but to inquire. So I cannot help confessing here again that external and internal sensation are the only passages of knowledge to the understanding that I can find. These alone, as far as I can discover, are the windows by which light is let into this dark room. For it seems to me that the understanding is not much unlike a small room wholly shut off from light, with only a little opening left to let in external visible resemblances, or ideas of things outside. Suppose the pictures coming into such a dark room would only stay there, and lie in such order as to be found when needed. Then it would very much resemble the understanding of a man, with respect to all objects of sight and the ideas of them.

These are my guesses about the means by which the understanding comes to have and retain simple ideas and their modes, along with some other operations about them. I now go on to examine some of these simple ideas and their modes a little more particularly.

COMPLEX IDEAS

The mind combines, relates and abstracts simple ideas; complex ideas are modes, substances or relations.

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2.12.1 *Made by the mind out of simple ones.*—We have hitherto considered those ideas, in the reception whereof the mind is only passive, which are those simple ones received from sensation and reflection before mentioned, whereof the mind cannot make one to itself, nor have any idea which does not wholly consist of them. But as the mind is wholly passive in the reception of all its simple ideas, so it exerts several acts of its own, whereby, out of its simple ideas, as the materials and foundations of the rest, the others are framed. The acts of the mind, wherein it exerts its power over its simple ideas, are chiefly these three: 1.

Combining several simple ideas into one compound one, and thus all complex ideas are made. 2. The second is bringing two ideas, whether simple or complex, together, and setting them by one another, so as to take a view of them

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Made by the mind out of simple ones.—So far we have considered those ideas in the reception of which the mind is only passive. These are the simple ones received from sensation and reflection, mentioned before. The mind cannot make any of them for itself, nor can it have any idea that does not consist wholly of them. But though the mind is wholly passive in receiving all its simple ideas, it also performs several acts of its own. By these acts the other ideas are framed out of its simple ideas, which are the materials and foundations of the rest. The acts of the mind in which it exerts its power over its simple ideas are chiefly these three: 1.

Combining several simple ideas into one compound one; this is how all complex ideas are made. 2. The second is bringing two ideas, whether simple or complex, together and setting them side by side, so as to view them at once without

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at once, without uniting them into one; by which way it gets all its ideas of relations. 3. The third is separating them from all other ideas that accompany them in their real existence; this is called abstraction: and thus all its general ideas are made.

This shows man's power, and its way of operation, to be much-what the same in the material and intellectual world: for the materials in both being such as he has no power over, either to make or destroy, all that man can do is either to unite them together, or to set them by one another, or wholly separate them. I shall here begin with the first of these, in the consideration of complex ideas, and come to the other two in their due places.

As simple ideas are observed to exist in several combinations united together, so the mind has a power to consider several of them united together as one idea; and that not only as they are united in external objects, but as itself has joined them. Ideas thus made up of several simple ones put together, I call complex; such as are beauty, gratitude, a man, an army, the universe; which, though complicated of various simple ideas, or complex ideas made up of simple ones, yet are, when the mind pleases, considered each by itself as one entire thing, and signified by one name.

2.12.2 *Made voluntarily.*—In this faculty of repeating and joining together its ideas, the mind has great power in varying and multiplying the objects of its thoughts infinitely beyond what sensation or reflection furnished it with; but all this still confined to those simple ideas which it received from those two sources, and which are the ultimate materials of all its compositions: for simple ideas are all from things themselves, and of these the mind can have no more nor other than what are suggested to it.

It can have no other ideas of sensible qualities than what come from without by the senses, nor any ideas of other kind of operations of a thinking substance than what it finds in itself; but when it has once got these simple ideas, it is not confined barely to observation, and what offers itself from without: it can, by its own power, put together those ideas it has, and make new complex ones, which it never received so united.

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uniting them into one; this is how the mind gets all its ideas of relations. 3. The third is separating them from all the other ideas that accompany them in their real existence. This is called abstraction, and this is how all its general ideas are made.

This shows that man's power and its way of operating are much the same in the material and the intellectual world. In both, the materials are such that he has no power to make or destroy them. So all man can do is either unite them, or set them side by side, or separate them entirely. In considering complex ideas I will begin here with the first of these, and come to the other two in their proper places.

Simple ideas are observed to exist in various combinations united together. In the same way the mind has a power to consider several of them united together as one idea, and not only as they are united in external objects, but also as it has joined them itself. I call ideas made up in this way of several simple ones put together complex: for example, beauty, gratitude, a man, an army, the universe. They are compounded of various simple ideas, or of complex ideas made up of simple ones. Yet when the mind pleases, each is considered by itself as one entire thing and signified by one name.

Made voluntarily.—In this faculty of repeating and joining together its ideas, the mind has great power to vary and multiply the objects of its thoughts, far beyond what sensation or reflection supplied it with. But all this is still confined to the simple ideas it received from those two sources, which are the ultimate materials of everything it puts together. Simple ideas all come from things themselves, and of these the mind can have no more, and no others, than what are suggested to it.

It can have no ideas of sensible qualities except those that come from outside through the senses. It can have no ideas of any other kind of operations of a thinking substance except those it finds in itself. But once it has got these simple ideas, it is not confined merely to observation and to what presents itself from outside. By its own power it can put together the ideas it has and make new

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complex ones, which it never received united in that way.

2.12.3 *Are either modes, substances, or relations.*—Complex ideas, however compounded and decompounded, though their number be infinite, and the variety endless, wherewith they fill and entertain the thoughts of men; yet, I think, they may be all reduced under these three heads. 1. Modes. 2. Substances. 3. Relations.

Are either modes, substances, or relations.—Complex ideas fill and entertain men's thoughts in infinite number and endless variety, however they are compounded and recompounded. Yet I think they can all be brought under these three heads: 1. Modes. 2. Substances. 3. Relations.

2.12.4 *Modes.*—First, Modes I call such complex ideas, which, however compounded, contain not in them the supposition of subsisting by themselves, but are considered as dependencies on, or affections of substances; such as are ideas signified by the words triangle, gratitude, murder, &c. And if in this I use the word mode in somewhat a different sense from its ordinary signification, I beg pardon: it being unavoidable in discourses, differing from the ordinary received notions, either to make new words, or to use old words in somewhat a new signification: the latter whereof, in our present case, is perhaps the more tolerable of the two.

Modes.—First, I call modes those complex ideas that, however compounded, do not contain the supposition that they subsist by themselves. They are considered as dependencies on substances, or affections of them. Examples are the ideas signified by the words "triangle," "gratitude," "murder," and so on. If in this I use the word "mode" in a somewhat different sense from its ordinary meaning, I beg your pardon. In discussions that depart from commonly received notions, it is unavoidable either to make new words or to use old words in a somewhat new sense. In the present case the second is perhaps the more tolerable of the two.

2.12.5 *Simple and mixed modes.*—Of these modes, there are two sorts which deserve distinct consideration. First, there are some which are only variations, or different combinations of the same simple idea, without the mixture of any other, as a dozen or score; which are nothing but the ideas of so many distinct units added together; and these I call simple modes, as being contained within the bounds of one simple idea.

Simple and mixed modes.—There are two sorts of these modes that deserve separate consideration. First, there are some that are only variations or different combinations of the same simple idea, without any other mixed in, such as a dozen or a score. These are nothing but the ideas of so many distinct units added together. I call these simple modes, because they are contained within the bounds of one simple idea.

Secondly, There are others compounded of simple ideas of several kinds, put together to make one complex one; *v. g.* beauty, consisting of a certain composition of colour and figure, causing delight in the beholder; theft, which being the concealed change of the possession of any thing, without the consent of the proprietor, contains, as is visible, a combination of several ideas of several kinds: and these I call mixed modes.

Second, there are others compounded of simple ideas of several kinds, put together to make one complex idea. Beauty, for example, consists of a certain composition of color and figure that causes delight in the beholder. Theft is the concealed change of possession of anything without the owner's consent, and it plainly contains a combination of several ideas of several kinds. These I call mixed modes.

2.12.6 *Substances, single or collective.*—Secondly, the ideas of substances are such combinations of simple ideas as are taken to represent distinct particular things subsisting by themselves; in which the supposed or confused idea of substance, such as it is, is always the first and chief. Thus, if to

Substances, single or collective.—Second, the ideas of substances are combinations of simple ideas that are taken to represent distinct particular things subsisting by themselves. In these, the supposed or confused idea of substance, such as it is, always comes first and is the chief part. Thus if we join to

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substance be joined the simple idea of a certain dull whitish colour, with certain degrees of weight, hardness, ductility, and fusibility, we have the idea of lead, and a combination of the ideas of a certain sort of figure, with the powers of motion, thought and reasoning, joined to substance, make the ordinary idea of a man.

Now of substances also there are two sorts of ideas; one of single substances, as they exist separately, as of a man, or a sheep; the other of several of those put together, as an army of men, or flock of sheep; which collective ideas of several substances thus put together, are as much each of them one single idea, as that of a man, or a unit.

2.12.7 *Relation.*—Thirdly, the last sort of complex ideas is that we call relation, which consists in the consideration and comparing one idea with another. Of these several kinds we shall treat in their order.

2.12.8 *The abstrusest ideas from the two sources.*—If we trace the progress of our minds, and with attention observe how it repeats, adds together, and unites its simple ideas received from sensation or reflection, it will lead us farther than at first perhaps we should have imagined.

And I believe we shall find, if we warily observe the originals of our notions, that even the most abstruse ideas, how remote soever they may seem from sense, or from any operations of our own minds, are yet only such as the understanding frames to itself by repeating and joining together ideas, that it had either from objects of sense, or from its own operations about them: so that even those large and abstract ideas are derived from sensation or reflection, being no other than what the mind, by the ordinary use of its own faculties, employed about ideas received from objects of sense, or from the operations it observes in itself about them, may and does attain unto.

This I shall endeavour to show in the ideas we have of space, time, and infinity, and some few others, that seem the most remote from those originals.

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substance the simple idea of a certain dull whitish color, with certain degrees of weight, hardness, ductility, and fusibility, we have the idea of lead. And a combination of the ideas of a certain sort of figure, with the powers of motion, thought, and reasoning, joined to substance, makes the ordinary idea of a man.

There are also two sorts of ideas of substances. One is of single substances as they exist separately, such as a man or a sheep. The other is of several of these put together, such as an army of men or a flock of sheep. Each of these collective ideas of several substances put together is just as much one single idea as the idea of a man, or of a unit.

Relation.—Third, the last sort of complex ideas is what we call relation. It consists in considering and comparing one idea with another. We shall treat these several kinds in order.

The abstrusest ideas from the two sources.—If we trace the progress of our minds, and observe carefully how the mind repeats, adds together, and unites the simple ideas it has received from sensation or reflection, this will lead us farther than we might at first have imagined.

I believe we shall find, if we look carefully at the origins of our notions, that even the most abstruse ideas, however remote they may seem from sense or from any operations of our own minds, are only ideas the understanding frames for itself. It does so by repeating and joining together ideas it had either from objects of sense or from its own operations on them. So even those large and abstract ideas are derived from sensation or reflection. They are nothing but what the mind may and does reach by the ordinary use of its own faculties, working on ideas received from objects of sense or from the operations it observes in itself concerning them.

I shall try to show this in the ideas we have of space, time, and infinity, and a few others that seem the most remote from those origins.

SPACE

The simple modes of space are distance, figure and place, and space is distinct from body.

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2.13.1 *Simple modes.*—Though in the foregoing part I have often mentioned simple ideas, which are truly the materials of all our knowledge; yet having treated of them there rather in the way that they come into the mind, than as distinguished from others more compounded, it will not be perhaps amiss to take a view of some of them again under this consideration, and examine those different modifications of the same idea, which the mind either finds in things existing, or is able to make within itself, without the help of any extrinsical object, or any foreign suggestion.

Those modifications of any one simple idea (which, as has been said, I call simple modes) are as perfectly different and distinct ideas in the mind as those of the greatest distance or contrariety. For the idea of two is as distinct from that of one as blueness from heat, or either of them from any number; and yet it is made up only of that simple idea of a unit repeated; and repetitions of this kind joined together, make those distinct simple modes, of a dozen, a gross, a million.

2.13.2 *Idea of space.*—I shall begin with the simple idea of space. I have showed above, chap. 4, that we get the idea of space both by our sight and touch; which I think is so evident, that it would be as needless to go to prove that men perceive, by their sight, a distance between bodies of different colours, or between the parts of the same body, as that they see colours themselves; nor is it less obvious that they can do so in the dark by feeling and touch.

2.13.3 *Space and extension.*—This space, considered barely in length between any two beings, without considering any thing else between them, is called distance; if considered in length, breadth, and thickness, I think it may be called capacity. The term extension is usually applied to it in what manner soever considered.

2.13.4 *Immensity.*—Each different distance is a different modification of space and each idea of any different distance or space is a simple mode of

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Simple modes.—In the earlier part I often mentioned simple ideas, which are truly the materials of all our knowledge. But there I treated them mainly according to the way they come into the mind, rather than as distinguished from other, more compounded ideas. So it may not be out of place to look at some of them again from this point of view. I shall examine the different modifications of the same idea that the mind either finds in existing things or can make within itself, without the help of any outside object or any suggestion from elsewhere.

These modifications of any one simple idea, which, as I have said, I call simple modes, are as perfectly different and distinct ideas in the mind as those that are farthest apart or most contrary. The idea of two is as distinct from the idea of one as blueness is from heat, or as either of these is from any number. Yet it is made up only of the simple idea of a unit, repeated. Repetitions of this kind, joined together, make the distinct simple modes of a dozen, a gross, a million.

Idea of space.—I shall begin with the simple idea of space. I showed above, in chapter 4, that we get the idea of space both by sight and by touch. I think this is so evident that it would be as pointless to prove that men see a distance between bodies of different colors, or between the parts of the same body, as to prove that they see colors themselves. It is just as obvious that they can do the same in the dark by feeling and touch.

Space and extension.—This space, considered only in length between any two beings, without considering anything else between them, is called distance. If it is considered in length, breadth, and thickness, I think it may be called capacity. The term "extension" is usually applied to it however it is considered.

Immensity.—Each different distance is a different modification of space, and each idea of any different distance or space is a simple mode of this idea.

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this idea. Men, for the use and by the custom of measuring, settle in their minds the ideas of certain stated lengths, such as are an inch, foot, yard, fathom, mile, diameter of the earth, &c. which are so many distinct ideas made up only of space.

When any such stated lengths or measures of space are made familiar to men's thoughts, they can in their minds repeat them as often as they will, without mixing or joining to them the idea of body, or any thing else; and frame to themselves the ideas of long, square, or cubic, feet, yards, or fathoms, here among the bodies of the universe, or else beyond the utmost bounds of all bodies; and by adding these still one to another, enlarge their ideas of space as much as they please.

The power of repeating or doubling any idea we have of any distance, and adding it to the former as often as we will, without being ever able to come to any stop or stint, let us enlarge it as much as we will, is that which gives us the idea of immensity.

2.13.5 *Figure.*—There is another modification of this idea, which is nothing but the relation which the parts of the termination of extension of circumscribed space have among themselves. This the touch discovers in sensible bodies, whose extremities come within our reach; and the eye takes both from bodies and colours, whose boundaries are within its view; where observing how the extremities terminate either in straight lines, which meet at discernible angles, or in crooked lines, wherein no angles can be perceived, by considering these as they relate to one another, in all parts of the extremities of any body or space, it has that idea we call figure, which affords to the mind infinite variety.

For besides the vast number of different figures that do really exist in the coherent masses of matter, the stock that the mind has in its power, by varying the idea of space, and thereby making still new compositions, by repeating its own ideas, and joining them as it pleases, is perfectly inexhaustible; and so it can multiply figures in infinitum.

2.13.6 *Figure.*—For the mind having a power to repeat the idea of any length directly stretched out, and

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For the sake of measuring, and by the habit of it, men fix in their minds the ideas of certain set lengths, such as an inch, a foot, a yard, a fathom, a mile, the diameter of the earth, and so on. These are so many distinct ideas made up only of space.

When any such set lengths or measures of space have become familiar to men's thoughts, they can repeat them in their minds as often as they like, without mixing in or attaching the idea of body or of anything else. They can frame for themselves the ideas of long, square, or cubic feet, yards, or fathoms, here among the bodies of the universe or beyond the farthest bounds of all bodies. And by continually adding these to one another, they can enlarge their ideas of space as much as they please.

We have the power to repeat or double any idea we have of any distance and add it to the previous one as often as we like, without ever being able to come to any stop or limit, however much we enlarge it. This power is what gives us the idea of immensity.

Figure.—There is another modification of this idea, which is nothing but the relation that the parts of the boundary of extension, or of circumscribed space, have among themselves. Touch discovers this in sensible bodies whose extremities come within our reach. The eye takes it both from bodies and from colors whose boundaries are within its view. The mind observes how the extremities end, either in straight lines that meet at discernible angles, or in curved lines in which no angles can be perceived. By considering these as they relate to one another in all parts of the extremities of any body or space, it has the idea we call figure, which offers the mind infinite variety.

Besides the vast number of different figures that really exist in coherent masses of matter, the mind has at its disposal a stock that is perfectly inexhaustible. It can vary the idea of space and so keep making new compositions, by repeating its own ideas and joining them as it pleases. In this way it can multiply figures without end.

Figure.—The mind has a power to repeat the idea of any length stretched out in a straight line and join

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join it to another in the same direction, which is to double the length of that straight line, or else join another with what inclination it thinks fit, and so make what sort of angle it pleases; and being able also to shorten any line it imagines, by taking from it one-half or one-fourth or what part it pleases, without being able to come to an end of any such divisions, it can make an angle of any bigness; so also the lines that are its sides, of what length it pleases, with joining again to other lines of different lengths, and at different angles, till it has wholly inclosed any space, it is evident that it can multiply figures, both in their shape and capacity, in infinitum; all which are but so many different simple modes of space.

The same that it can do with straight lines, it can also do with crooked, or crooked and straight together; and the same it can do in lines it can also in superficies: by which we may be led into farther thoughts of the endless variety of figures, that the mind has a power to make, and thereby to multiply the simple modes of space.

2.13.7 *Place.*—Another idea coming under this head, and belonging to this tribe, is that we call place. As in simple space we consider the relation of distance between any two bodies or points; so in our idea of place we consider the relation of distance betwixt any thing and any two or more points, which are considered as keeping the same distance one with another, and so considered as at rest: for when we find any thing at the same distance now which it was yesterday, from any two or more points, which have not since changed their distance one with another, and with which we then compared it, we say it hath kept the same place:

but if it hath sensibly altered its distance with either of those points, we say it hath changed its place: though vulgarly speaking, in the common notion of place, we do not always exactly observe the distance from these precise points, but from larger portions of sensible objects, to which we consider the thing placed to bear relation, and its distance from which we have some reason to observe.

2.13.8 Thus a company of chess-men standing on the same squares of the chess-board where we left them, we say they are all in the same place, or

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it to another in the same direction, which doubles the length of that straight line. Or it can join another at whatever inclination it thinks fit, and so make whatever sort of angle it pleases. It can also shorten any line it imagines, by taking away one-half, one-fourth, or whatever part it pleases, without ever being able to come to an end of such divisions. So it can make an angle of any size, and the lines that form its sides of whatever length it pleases. And by joining these again to other lines of different lengths and at different angles, until it has completely enclosed a space, it is evident that it can multiply figures, both in shape and in capacity, without limit. All of these are only so many different simple modes of space.

What it can do with straight lines it can also do with curved lines, or with curved and straight lines together. And what it can do with lines it can also do with surfaces. This may lead us to further thoughts about the endless variety of figures the mind has the power to make, and so about how it multiplies the simple modes of space.

Place.—Another idea that comes under this head and belongs to this family is what we call place. In simple space we consider the relation of distance between any two bodies or points. In our idea of place we consider the relation of distance between anything and any two or more points that are regarded as keeping the same distance from one another, and so regarded as at rest. When we find a thing today at the same distance it was yesterday from two or more points that have not since changed their distance from one another, and with which we compared it then, we say it has kept the same place.

But if it has noticeably changed its distance from either of those points, we say it has changed its place. In ordinary speech, though, and in the common notion of place, we do not always observe exactly its distance from these precise points. We observe instead its distance from larger portions of sensible objects, to which we consider the placed thing to be related, and whose distance from it we have some reason to notice.

Thus when a set of chessmen stand on the same squares of the chessboard where we left them, we say they are all in the same place, or unmoved,

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unmoved; though perhaps the chess-board hath been in the mean time carried out of one room into another; because we compared them only to the parts of the chess-board which keep the same distance one with another.

The chess-board, we also say, is in the same place it was, if it remain in the same part of the cabin, though perhaps the ship which it is in sails all the while: and the ship is said to be in the same place, supposing it kept the same distance with the parts of the neighbouring land, though perhaps the earth hath turned round: and so both chess-men, and board, and ship, have every one changed place, in respect of remoter bodies, which have kept the same distance one with another.

But yet the distance from certain parts of the board being that which determines the place of the chess-men: and the distance from the fixed parts of the cabin (with which we made the comparison) being that which determined the place of the chess-board; and the fixed parts of the earth that by which we determined the place of the ship; these things may be said to be in the same place in those respects: though their distance from some other things, which in this matter we did not consider, being varied, they have undoubtedly changed place in that respect: and we ourselves shall think so when we have occasion to compare them with those other.

2.13.9 But this modification of distance we call place, being made by men for their common use, that by it they might be able to design the particular position of things, where they had occasion for such designation; men consider and determine of this place by reference to those adjacent things which best served to their present purpose, without considering other things, which to answer another purpose would better determine the place of the same thing.

Thus, in the chess-board, the use of the designation of the place of each chess-man being determined only within that chequered piece of wood, it would cross that purpose to measure it by any thing else; but when these very chess-men are put up in a bag, if any one should ask where the black king is, it would be proper to determine the place by the parts of the room it was in, and not by the chess-board; there being another use of designing the place it is now in, than when in play

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even though the chessboard may meanwhile have been carried from one room into another. This is because we compared them only to the parts of the chessboard, which keep the same distance from one another.

We also say the chessboard is in the same place it was, if it stays in the same part of the cabin, even though the ship it is in may be sailing all the while. And the ship is said to be in the same place if it has kept the same distance from the parts of the neighboring land, even though the earth may have turned round. So the chessmen, the board, and the ship have each changed place with respect to remoter bodies that have kept the same distance from one another.

Still, the distance from certain parts of the board is what determines the place of the chessmen. The distance from the fixed parts of the cabin, with which we made the comparison, is what determined the place of the chessboard. And the fixed parts of the earth are what we used to determine the place of the ship. So these things may be said to be in the same place in those respects. But since their distance from certain other things, which we did not consider here, has changed, they have undoubtedly changed place in that respect. And we ourselves shall think so when we have occasion to compare them with those other things.

But this modification of distance that we call place was made by men for their common use, so that they could designate the particular position of things when they needed to. So men consider and determine place by reference to whatever adjacent things best serve their present purpose. They do not consider other things that, for another purpose, would better determine the place of the same thing.

Thus on the chessboard, the purpose of designating the place of each chessman is confined to that checkered piece of wood, and it would defeat that purpose to measure it by anything else. But when these same chessmen have been put away in a bag, if anyone asked where the black king is, it would be proper to determine its place by the parts of the room it was in, not by the chessboard. There is a different purpose in designating the place it is in now from when it was on the chess-

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it was on the chess-board, and so must be determined by other bodies.

So if any one should ask, in what place are the verses which report the story of Nisus and Euryalus, it would be very improper to determine this place by saying, they were in such a part of the earth, or in Bodley's library: but the right designation of the place would be by the parts of Virgil's works; and the proper answer would be, that these verses were about the middle of the ninth book of his Æneid; and that they have been always constantly in the same place ever since Virgil was printed; which is true, though the book itself hath moved a thousand times; the use of the idea of place here being to know in what part of the book that story is, that so upon occasion we may know where to find it, and have recourse to it for use.

2.13.10 *Place.*—That our idea of place is nothing else but such a relative position of any thing, as I have before mentioned, I think is plain, and will be easily admitted, when we consider that we can have no idea of the place of the universe, though we can of all the parts of it; because beyond that we have not the idea of any fixed, distinct, particular beings, in reference to which we can imagine it to have any relation of distance; but all beyond it is one uniform space or expansion, wherein the mind finds no variety, no marks.

For to say that the world is somewhere, means no more than that it does exist: this, though a phrase borrowed from place, signifying only its existence, not location; and when one can find out and frame in his mind, clearly and distinctly, the place of the universe, he will be able to tell us whether it moves or stands still in the undistinguishable inane of infinite space: though it be true that the word place has sometimes a more confused sense, and stands for that space which any body takes up; and so the universe is in a place.

The idea therefore of place we have by the same means that we get the idea of space (whereof this is but a particular limited consideration,) viz. by our sight and touch; by either of which we receive into our minds the ideas of extension or distance.

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board in play, and so its place must be determined by other bodies.

Likewise, if anyone asked where the verses are that tell the story of Nisus and Euryalus, it would be quite improper to determine their place by saying they were in such-and-such a part of the earth, or in Bodley's library. The right designation of their place would be by the parts of Virgil's works. The proper answer would be that these verses are about the middle of the ninth book of his *Aeneid*, and that they have always stayed in the same place ever since Virgil was printed. That is true even though the book itself has been moved a thousand times. Here the use of the idea of place is to know in what part of the book the story is, so that when the occasion arises we know where to find it and can turn to it.[15]

Place.—I think it is plain that our idea of place is nothing but the kind of relative position of a thing that I have just described. This will be readily admitted when we consider that we can have no idea of the place of the universe, though we can have one of all its parts. Beyond the universe we have no idea of any fixed, distinct, particular beings by reference to which we could imagine it to have any relation of distance. All beyond it is one uniform space or expanse, in which the mind finds no variety and no marks.

To say that the world is somewhere means no more than that it exists. The phrase is borrowed from place, but it signifies only the world's existence, not its location. When someone can discover and frame in his mind, clearly and distinctly, the place of the universe, he will be able to tell us whether it moves or stands still in the featureless void of infinite space. It is true that the word "place" sometimes has a looser sense and stands for the space that a body takes up. In that sense the universe is in a place.

So we get the idea of place by the same means as the idea of space, of which it is only a particular, limited consideration: namely, by sight and touch. Through either of these we receive into our minds the ideas of extension or distance.

15 Nisus and Euryalus are two Trojan friends whose night raid and death are told in *Aeneid* 9. "Bodley's library" is the Bodleian Library at Oxford, refounded by Sir Thomas Bodley in 1602.

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2.13.11 *Extension and body not the same.*—There are some that would persuade us that body and extension are the same thing: who either change the signification of words, which I would not suspect them of, they having so severely condemned the philosophy of others, because it hath been too much placed in the uncertain meaning or deceitful obscurity of doubtful or insignificant terms. If therefore they mean by body and extension the same that other people do, viz. by body, something that is solid and extended, whose parts are separable and moveable different ways; and by extension only the space that lies between the extremities of those solid coherent parts, and which is possessed by them, they confound very different ideas one with another.

For I appeal to every man's own thoughts, whether the idea of space be not as distinct from that of solidity as it is from the idea of scarlet colour? It is true, solidity cannot exist without extension, neither can scarlet colour exist without extension; but this hinders not but that they are distinct ideas. Many ideas require others as necessary to their existence or conception, which yet are very distinct ideas. Motion can neither be, nor be conceived, without space; and yet motion is not space, nor space motion: space can exist without it, and they are very distinct ideas; and so, I think, are those of space and solidity.

Solidity is so inseparable an idea from body, that upon that depends its filling of space, its contact, impulse, and communication of motion upon impulse. And if it be a reason to prove that spirit is different from body, because thinking includes not the idea of extension in it, the same reason will be as valid, I suppose, to prove that space is not body, because it includes not the idea of solidity in it: space and solidity being as distinct ideas as thinking and extension, and as wholly separable in the mind one from another. Body, then, and extension, it is evident, are two distinct ideas. For,

2.13.12 First, Extension includes no solidity, nor resistance to the motion of body, as body does.

2.13.13 Secondly, The parts of pure space are inseparable one from the other; so that the continuity cannot be separated, neither really nor mentally. For I

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Extension and body not the same.—Some people would persuade us that body and extension are the same thing. Either they change the meaning of words, which I would not suspect them of, since they have so severely condemned other people's philosophy for resting too much on the uncertain meaning or deceptive obscurity of doubtful or meaningless terms. Or else, if by body and extension they mean the same as other people do, namely by body something solid and extended, whose parts are separable and movable in different ways, and by extension only the space that lies between the extremities of those solid coherent parts and is occupied by them, then they confuse very different ideas with one another.

I appeal to every man's own thoughts: is not the idea of space as distinct from the idea of solidity as it is from the idea of scarlet? It is true that solidity cannot exist without extension. But neither can scarlet exist without extension, and this does not prevent them from being distinct ideas. Many ideas require others as necessary to their existence or their conception, and yet they are very distinct ideas. Motion can neither exist nor be conceived without space, and yet motion is not space, nor space motion. Space can exist without motion, and they are very distinct ideas. And so, I think, are the ideas of space and solidity.

Solidity is so inseparable from the idea of body that on it depend body's filling of space, its contact, its impulse, and its communication of motion by impulse. If it is a good argument that spirit is different from body because thinking does not include the idea of extension, then the same argument will be just as valid, I suppose, to prove that space is not body, because space does not include the idea of solidity. Space and solidity are as distinct ideas as thinking and extension, and just as wholly separable from each other in the mind. It is evident, then, that body and extension are two distinct ideas. For:

First, extension includes no solidity, and no resistance to the motion of body, as body does.

Second, the parts of pure space are inseparable from one another, so that their continuity cannot be separated either really or mentally. I challenge

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demand of any one to remove any part of it from another with which it is continued, even so much as in thought.

To divide and separate actually, is, as I think, by removing the parts one from another, to make two superficies, where before there was a continuity; and to divide mentally, is to make in the mind two superficies, where before there was a continuity, and consider them as removed one from the other; which can only be done in things considered by the mind as capable of being separated, and by separation, of acquiring new distinct superficies, which they then have not, but are capable of; but neither of these ways of separation, whether real or mental, is, as I think, compatible to pure space.

It is true, a man may consider so much of such a space as is answerable or commensurate to a foot, without considering the rest; which is indeed a partial consideration, but not so much as mental separation or division; since a man can no more mentally divide, without considering two superficies separate one from the other, than he can actually divide without making two superficies disjoined one from the other: but a partial consideration is not separating. A man may consider light in the sun, without its heat; or mobility in body, without its extension, without thinking of their separation. One is only a partial consideration, terminating in one alone; and the other is a consideration of both, as existing separately.

2.13.14 Thirdly, The parts of pure space are immovable, which follows from their inseparability; motion being nothing but change of distance between any two things; but this cannot be between parts that are inseparable, which therefore must needs be at perpetual rest one among another.

Thus the determined idea of simple space distinguishes it plainly and sufficiently from body; since its parts are inseparable, immovable, and without resistance to the motion of body.

2.13.15 *The definition of extension explains it not.*—If any one ask me what this space I speak of is? I will tell him, when he tells me what his extension is. For to say, as is usually done, that extension is to have partes extra partes, is to say only that extension is extension: for what am I the better informed in

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anyone to remove any part of it from another part with which it is continuous, even in thought.

To divide and separate actually is, I think, to make two surfaces where before there was continuity, by removing the parts from one another. To divide mentally is to make in the mind two surfaces where before there was continuity, and to consider them as removed from each other. This can only be done with things the mind regards as capable of being separated, and of acquiring by separation new distinct surfaces that they do not have now but could have. But neither of these ways of separating, real or mental, is, I think, compatible with pure space.

It is true that a man may consider as much of such a space as corresponds or is equal to a foot, without considering the rest. That is indeed a partial consideration, but it is not even mental separation or division. A man can no more divide mentally without considering two surfaces separate from each other than he can divide actually without making two surfaces disjoined from each other. But a partial consideration is not separating. A man may consider the light in the sun without its heat, or mobility in body without its extension, without thinking of their separation. The one is only a partial consideration, ending in one thing alone. The other is a consideration of both, as existing separately.

Third, the parts of pure space are immovable, which follows from their inseparability. Motion is nothing but change of distance between any two things. But this cannot happen between parts that are inseparable, which therefore must be at perpetual rest with respect to one another.

So the determinate idea of simple space distinguishes it plainly and sufficiently from body, since its parts are inseparable, immovable, and offer no resistance to the motion of body.

The definition of extension explains it not.—If anyone asks me what this space I speak of is, I will tell him when he tells me what his extension is. To say, as is usually done, that extension is having *partes extra partes,* parts outside parts, is only to say that extension is extension. How am I better informed

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the nature of extension when I am told, that extension is to have parts that are extended exterior to parts that are extended, *i. e.* extension consists of extended parts? As if one asking what a fibre was?

I should answer him, that it was a thing made up of several fibres: would he thereby be enabled to understand what a fibre was better than he did before? Or rather, would he not have reason to think that my design was to make sport with him, rather than seriously to instruct him?

2.13.16 *Division of beings into bodies and spirits proves not space and body the same.*—Those who contend that space and body are the same, bring this dilemma, either this space is something or nothing; if nothing be between two bodies, they must necessarily touch; if it be allowed to be something, they ask whether it be body or spirit? To which I answer by another question, who told them that there was or could be nothing but solid beings which could not think, and thinking beings, that were not extended? which is all they mean by the terms body and spirit.

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about the nature of extension when I am told that extension is having extended parts outside extended parts, that is, that extension consists of extended parts? It is as if someone asked me what a fiber was,

and I answered that it was a thing made up of several fibers. Would that enable him to understand what a fiber was any better than before? Or would he not rather have reason to think that I meant to make fun of him, not to instruct him seriously?

Division of beings into bodies and spirits proves not space and body the same.—Those who argue that space and body are the same bring this dilemma: this space is either something or nothing. If there is nothing between two bodies, they must necessarily touch. If it is granted to be something, they ask whether it is body or spirit. I answer with another question: who told them that there was, or could be, nothing but solid beings that cannot think and thinking beings that are not extended? For that is all they mean by the terms "body" and "spirit."

SUBSTANCE AND ACCIDENTS

Locke admits he has no clear idea of substance and mocks it as the Indian philosopher's elephant.

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2.13.17 *Substance which we know not, no proof against space without body.*—If it be demanded (as usually it is) whether this space, void of body, be substance or accident, I shall readily answer, I know not, nor shall be ashamed to own my ignorance, till they that ask show me a clear distinct idea of substance.

2.13.18 I endeavour, as much as I can, to deliver myself from those fallacies which we are apt to put upon ourselves by taking words for things. It helps not our ignorance to feign a knowledge where we have none, by making a noise with sounds, without clear and distinct significations.

Names made at pleasure neither alter the nature of things, nor make us understand them, but as they are signs of, and stand for determined ideas: and I desire those who lay so much stress on the sound of these two syllables, substance, to consider whether applying it, as they do, to the infinite, incomprehensible God, to finite spirit,

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Substance which we know not, no proof against space without body.—If I am asked, as people usually are, whether this space empty of body is substance or accident, I shall readily answer that I do not know. Nor shall I be ashamed to admit my ignorance until those who ask show me a clear, distinct idea of substance.

I try as far as I can to free myself from the fallacies we are apt to impose on ourselves by taking words for things. It does not help our ignorance to pretend to knowledge where we have none, by making a noise with sounds that have no clear and distinct meanings.

Names made at will neither alter the nature of things nor make us understand them, except insofar as they are signs of determinate ideas and stand for them. I ask those who put so much weight on the sound of these two syllables, "substance," to consider this. When they apply it, as they do, to the infinite, incomprehensible God, to

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and to body, it be in the same sense; and whether it stands for the same idea, when each of those three so different beings are called substances?

If so, whether it will thence follow that God, spirits, and body, agreeing in the same common nature of substance, differ not any otherwise than in a bare different modification of that substance; as a tree and a pebble, being in the same sense body, and agreeing in the common nature of body, differ only in the bare modification of that common matter; which will be a very harsh doctrine.

If they say that they apply it to God, finite spirits, and matter, in three different significations; and that it stands for one idea, when God is said to be a substance; for another, when the soul is called substance; and for a third, when a body is called so; if the name substance stands for three several distinct ideas, they would do well to make known those distinct ideas, or at least to give three distinct names to them, to prevent, in so important a notion, the confusion and errors that will naturally follow from the promiscuous use of so doubtful a term; which is so far from being suspected to have three distinct, that in ordinary use it has scarce one clear distinct signification; and if they can thus make three distinct ideas of substance, what hinders why another may not make a fourth?

2.13.19 *Substance and accidents, of little use in philosophy.*— They who first ran into the notion of accidents, as a sort of real beings that needed something to inhere in, were forced to find out the word substance to support them. Had the poor Indian philosopher (who imagined that the earth also wanted something to bear it up) but thought of this word, substance, he needed not to have been at the trouble to find an elephant to support it, and a tortoise to support his elephant: the word substance would have done it effectually.

And he that inquired might have taken it for as good an answer from an Indian philosopher, that substance, without knowing what it is, is that which supports the earth, as we take it for a sufficient answer, and good doctrine, from our European philosophers, that substance, without

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finite spirit, and to body, is it in the same sense? Does it stand for the same idea when each of those three very different beings is called a substance?

If so, does it follow that God, spirits, and body, agreeing in the same common nature of substance, differ only by a mere difference in the modification of that substance? That would be like a tree and a pebble, which are body in the same sense and agree in the common nature of body, and differ only in the mere modification of that common matter. That would be a very harsh doctrine.

Suppose they say they apply it to God, finite spirits, and matter in three different senses: that it stands for one idea when God is said to be a substance, for another when the soul is called a substance, and for a third when a body is called so. If the name "substance" stands for three separate, distinct ideas, they would do well to make those distinct ideas known, or at least to give them three distinct names. That would prevent, in so important a notion, the confusion and errors that naturally follow from the indiscriminate use of so doubtful a term. Far from being suspected of having three distinct meanings, in ordinary use it scarcely has one clear, distinct meaning. And if they can make three distinct ideas of substance in this way, what prevents someone else from making a fourth?

Substance and accidents, of little use in philosophy.— Those who first took up the notion of accidents as a sort of real beings that needed something to inhere in were forced to invent the word "substance" to support them. If the poor Indian philosopher, who imagined that the earth too needed something to hold it up, had only thought of this word "substance," he would not have had to go to the trouble of finding an elephant to support it and a tortoise to support his elephant. The word "substance" would have done the job perfectly.[16]

And the person who asked might have taken it as just as good an answer from an Indian philosopher that substance, without knowing what it is, is what supports the earth, as we take it to be a sufficient answer and sound doctrine from our

16 Locke refers to a cosmology reported by European travelers, in which the earth rests on an elephant and the elephant on a tortoise; he uses the image again at 2.23.2.

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knowing what it is, is that which supports accidents. So that of substance we have no idea of what it is, but only a confused obscure one of what it does.

2.13.20 Whatever a learned man may do here, an intelligent American, who inquired into the nature of things, would scarce take it for a satisfactory account, if, desiring to learn our architecture, he should be told that a pillar was a thing supported by a basis, and a basis something that supported a pillar. Would he not think himself mocked, instead of taught, with such an account as this?

And a stranger to them would be very liberally instructed in the nature of books, and the things they contained, if he should be told, that all learned books consisted of paper and letters, and that letters were things inhering in paper, and paper a thing that held forth letters; a notable way of having clear ideas of letters and paper! But were the Latin words *inhærentia* and *substantia* put into the plain English ones that answer them, and were called sticking on and underpropping, they would better discover to us the very great clearness there is in the doctrine of substance and accidents, and show of what use they are in deciding of questions in philosophy.

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European philosophers that substance, without knowing what it is, is what supports accidents. So of substance we have no idea of what it is, but only a confused, obscure idea of what it does.

Whatever a learned man may make of this, an intelligent Native American who inquired into the nature of things would hardly take it as a satisfactory account if, wanting to learn our architecture, he were told that a pillar was a thing supported by a base, and a base something that supported a pillar. Would he not think he was being mocked instead of taught by an account like that?

And someone unfamiliar with them would be generously instructed in the nature of books and what they contain if he were told that all learned books consist of paper and letters, that letters are things inhering in paper, and that paper is a thing that holds up letters. A remarkable way of getting clear ideas of letters and paper! If the Latin words *inhaerentia* and *substantia* were turned into the plain English words that correspond to them, and were called "sticking on" and "underpropping," they would better show us the very great clearness there is in the doctrine of substance and accidents, and what use they are in deciding questions in philosophy.

THE POSSIBILITY OF A VACUUM

Arguments from the edge of the world, annihilation and motion show that empty space is possible.

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2.13.21 *A vacuum beyond the utmost bounds of body.*—But to return to our idea of space. If body be not supposed infinite, which I think no one will affirm, I would ask, whether, if God placed a man at the extremity of corporeal beings, he could not stretch his hand beyond his body? If he could, then he would put his arm where there was before space without body, and if there he spread his fingers, there would still be space between them without body.

If he could not stretch out his hand, it must be because of some external hindrance; (for we suppose him alive, with such a power of moving the parts of his body that he hath now, which is not in itself impossible, if God so pleased to have it; or at least it is not impossible for God so to

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A vacuum beyond the utmost bounds of body.—But to return to our idea of space. If body is not supposed to be infinite, which I think no one will claim, I would ask this: if God placed a man at the outer edge of all bodily beings, could he not stretch his hand out beyond his body? If he could, then he would put his arm where there was previously space without body. And if he spread his fingers there, there would still be space without body between them.

If he could not stretch out his hand, it must be because of some external obstacle. For we suppose him alive, with the same power of moving the parts of his body that he has now. That is not impossible in itself, if God were pleased to have it so; or at least it is not impossible for God to move him

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move him:) and then I ask, whether that which hinders his hand from moving outwards be substance or accident, something or nothing? And when they have resolved that, they will be able to resolve themselves what that is, which is or may be between two bodies at a distance, that is not body, and has no solidity.

In the mean time, the argument is at least as good, that where nothing hinders (as beyond the utmost bounds of all bodies) a body put in motion may move on: as where there is nothing between, there two bodies must necessarily touch: for pure space between is sufficient to take away the necessity of mutual contact; but bare space in the way is not sufficient to stop motion. The truth is, these men must either own that they think body infinite, though they are loath to speak it out, or else affirm that space is not body.

For I would fain meet with that thinking man, that can in his thoughts set any bounds to space more than he can to duration, or by thinking hope to arrive at the end of either: and, therefore, if his idea of eternity be infinite, so is his idea of immensity: they are both finite or infinite alike.

2.13.22 *The power of annihilation proves a vacuum.*— Farther, those who assert the impossibility of space existing without matter, must not only make body infinite, but must also deny a power in God to annihilate any part of matter. No one, I suppose, will deny that God can put an end to all motion that is in matter, and fix all the bodies of the universe in a perfect quiet and rest, and continue them so long as he pleases.

Whoever then will allow that God can, during such a general rest, annihilate either this book, or the body of him that reads it, must necessarily admit the possibility of a vacuum; for it is evident that the space that was filled by the parts of the annihilated body will still remain, and be a space without body: for the circumambient bodies being in perfect rest, are a wall of adamant, and in that state make it a perfect impossibility for any other body to get into that space.

And indeed the necessary motion of one particle of matter into the place from whence another particle of matter is removed, is but a consequence from the supposition of plenitude;

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in that way. And then I ask whether what prevents his hand from moving outward is substance or accident, something or nothing. When they have settled that, they will be able to settle for themselves what it is that is, or may be, between two bodies at a distance, which is not body and has no solidity.

Meanwhile the argument is at least as good that where nothing hinders it, as beyond the farthest bounds of all bodies, a body set in motion may keep moving, as the argument that where there is nothing between them, two bodies must necessarily touch. For pure space in between is enough to remove the necessity of mutual contact, but mere space in the way is not enough to stop motion. The truth is, these men must either admit that they think body is infinite, though they are reluctant to say it outright, or else affirm that space is not body.

I would very much like to meet the thinking man who can set any bounds to space in his thoughts, any more than he can to duration, or who hopes by thinking to reach the end of either. So if his idea of eternity is infinite, so is his idea of immensity. They are both finite or both infinite alike.

The power of annihilation proves a vacuum.—Further, those who maintain that space cannot exist without matter must not only make body infinite. They must also deny that God has the power to annihilate any part of matter. No one, I suppose, will deny that God can put an end to all motion in matter, fix all the bodies of the universe in perfect quiet and rest, and keep them so as long as he pleases.

Then whoever grants that God can, during such a general rest, annihilate either this book or the body of the person reading it must necessarily admit the possibility of a vacuum. For it is evident that the space filled by the parts of the annihilated body will still remain, and will be a space without body. The surrounding bodies, being in perfect rest, are a wall of adamant, and in that state they make it perfectly impossible for any other body to get into that space.

Indeed, the necessary motion of one particle of matter into the place from which another particle has been removed is only a consequence of the supposition of plenitude. That supposition will

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which will therefore need some better proof than a supposed matter of fact, which experiment can never make out: our own clear and distinct ideas plainly satisfying us that there is no necessary connexion between space and solidity, since we can conceive the one without the other. And those who dispute for or against a vacuum, do thereby confess they have distinct ideas of vacuum and plenum, *i. e.* that they have an idea of extension void of solidity, though they deny its existence, or else they dispute about nothing at all.

For they who so much alter the signification of words as to call extension body, and consequently make the whole essence of body to be nothing but pure extension without solidity, must talk absurdly whenever they speak of vacuum, since it is impossible for extension to be without extension: for vacuum, whether we affirm or deny its existence, signifies space without body, whose very existence no one can deny to be possible, who will not make matter infinite, and take from God a power to annihilate any particle of it.

2.13.23 *Motion proves a vacuum.*—But not to go so far as beyond the utmost bounds of body in the universe, nor appeal to God's omnipotency to find a vacuum, the motion of bodies that are in our view and neighbourhood seems to me plainly to evince it. For I desire any one so to divide a solid body, of any dimension he pleases, as to make it possible for the solid parts to move up and down freely every way within the bounds of that superficies, if there be not left in it a void space as big as the least part into which he has divided the said solid body.

And if where the least particle of the body divided is as big as a mustard-seed, a void space equal to the bulk of a mustard-seed be requisite to make room for the free motion of the parts of the divided body within the bounds of its superficies, where the particles of matter are 100,000,000 less than a mustard-seed, there must also be a space void of solid matter as big as 100,000,000 part of a mustard-seed; for if it hold good in one it will hold in the other, and so on *in infinitum*.

And let this void space be as little as it will, it destroys the hypothesis of plenitude: for if there can be a space void of body equal to the smallest

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therefore need some better proof than a supposed matter of fact that experiment can never establish. Our own clear and distinct ideas plainly satisfy us that there is no necessary connection between space and solidity, since we can conceive the one without the other. And those who argue for or against a vacuum thereby admit that they have distinct ideas of vacuum and plenum, that is, that they have an idea of extension empty of solidity, even though they deny that it exists. Otherwise they are arguing about nothing at all.

Those who alter the meaning of words so far as to call extension body, and so make the whole essence of body nothing but pure extension without solidity, must talk absurdly whenever they speak of a vacuum, since it is impossible for extension to be without extension. For "vacuum," whether we affirm or deny its existence, signifies space without body. No one can deny that its existence is possible unless he makes matter infinite and takes from God the power to annihilate any particle of it.

Motion proves a vacuum.—But without going beyond the farthest bounds of body in the universe, or appealing to God's omnipotence, to find a vacuum, the motion of bodies within our view and in our neighborhood seems to me plainly to prove it. I ask anyone to divide a solid body, of any size he likes, so that its solid parts can move up and down freely in every direction within the bounds of its surface, without leaving in it a void space as big as the smallest part into which he has divided that solid body.

Where the smallest particle of the divided body is as big as a mustard seed, a void space equal to the bulk of a mustard seed is required to make room for the free motion of the parts of the divided body within the bounds of its surface. If so, then where the particles of matter are a hundred million times smaller than a mustard seed, there must also be a space empty of solid matter as big as a hundred-millionth part of a mustard seed. For if it holds in the one case, it will hold in the other, and so on without end.

And however small this void space may be, it destroys the hypothesis of plenitude. For if there can be a space empty of body equal to the smallest

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separate particle of matter now existing in nature, it is still space without body, and makes as great a difference between space and body, as if it were μέγα χάσμα, a distance as wide as any in nature. And therefore if we suppose not the void space necessary to motion equal to the least parcel of the divided solid matter, but to 1-10 or 1-1000 of it, the same consequence will always follow of space without matter.

2.13.24 *The ideas of space and body distinct.*—But the question being here, "whether the idea of space or extension be the same with the idea of body," it is not necessary to prove the real existence of a vacuum, but the idea of it; which it is plain men have, when they inquire and dispute whether there be a vacuum or no: for if they had not the idea of space without body, they could not make a question about its existence; and if their idea of body did not include in it something more than the bare idea of space, they could have no doubt about the plenitude of the world; and it would be as absurd to demand whether there were space without body, as whether there were space without space, or body without body, since these were but different names of the same idea.

2.13.25 *Extension being inseparable from body, proves it not the same.*—It is true, that the idea of extension joins itself so inseparably with all visible and most tangible qualities, that it suffers us to see no one, or feel very few external objects, without taking in impressions of extension. This readiness of extension to make itself be taken notice of so constantly with other ideas, has been the occasion, I guess, that some have made the whole essence of body to consist in extension; which is not much to be wondered at, since some have had their minds, by their eyes and touch (the busiest of all our senses,) so filled with the idea of extension, and as it were wholly possessed with it, that they allowed no existence to any thing that had not extension.

I shall not now argue with those men who take the measure and possibility of all being only from their narrow and gross imaginations; but having here to do only with those who conclude the essence of body to be extension, because they say they cannot imagine any sensible quality of any

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separate particle of matter now existing in nature, it is still space without body. It makes as great a difference between space and body as if it were a *mega chasma*, a great gulf, a distance as wide as any in nature. So if we suppose that the void space needed for motion is not equal to the smallest bit of the divided solid matter, but to a tenth or a thousandth of it, the same conclusion will always follow: there is space without matter.[17]

The ideas of space and body distinct.—But since the question here is "whether the idea of space or extension is the same as the idea of body," it is not necessary to prove the real existence of a vacuum, only the idea of it. And men plainly have that idea when they inquire and argue about whether there is a vacuum or not. If they did not have the idea of space without body, they could not raise a question about its existence. And if their idea of body did not include something more than the mere idea of space, they could have no doubt about the plenitude of the world. It would then be as absurd to ask whether there were space without body as to ask whether there were space without space, or body without body, since these would be only different names for the same idea.

Extension being inseparable from body, proves it not the same.—It is true that the idea of extension attaches itself so inseparably to all visible qualities and most tangible ones that it does not allow us to see any external object, or feel more than a very few, without taking in impressions of extension. This readiness of extension to make itself noticed so constantly along with other ideas has, I suspect, led some people to make the whole essence of body consist in extension. That is not very surprising, since some have had their minds so filled with the idea of extension by their eyes and touch, the busiest of all our senses, and so wholly possessed by it, that they allowed no existence to anything that did not have extension.

I shall not argue now with those who take the measure and possibility of all being only from their own narrow and crude imaginations. Here I am dealing only with those who conclude that the essence of body is extension because, they say, they cannot imagine any sensible quality of any

17 *Mega chasma* ("a great gulf") echoes Luke 16:26, the gulf fixed between Abraham and the rich man.

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body without extension, I shall desire them to consider, that had they reflected on their ideas of tastes and smells as much as on those of sight and touch; nay, had they examined their ideas of hunger and thirst, and several other pains, they would have found that they included in them no idea of extension at all; which is but an affection of body, as well as the rest, discoverable by our senses, which are scarce acute enough to look into the pure essences of things.

2.13.26 If those ideas which are constantly joined to all others must therefore be concluded to be the essence of those things which have constantly those ideas joined to them, and are inseparable from them, then unity is, without doubt, the essence of every thing: for there is not any object of sensation or reflection which does not carry with it the idea of one; but the weakness of this kind of argument we have already shown sufficiently.

2.13.27 *Ideas of space and solidity distinct.*—To conclude, whatever men shall think concerning the existence of a vacuum, this is plain to me, that we have as clear an idea of space distinct from solidity, as we have of solidity distinct from motion, or motion from space. We have not any two more distinct ideas, and we can as easily conceive space without solidity, as we can conceive body or space without motion, though it be never so certain that neither body nor motion can exist without space.

But whether any one will take space to be only a relation resulting from the existence of other beings at a distance, or whether they will think the words of the most knowing king Solomon, "The heaven, and the heaven of heavens cannot contain thee," or those more emphatical ones of the inspired philosopher St Paul, "In him we live, move, and have our being," are to be understood in a literal sense, I leave every one to consider: only our idea of space is, I think, such as I have mentioned, and distinct from that of body.

For whether we consider in matter itself the distance of its coherent solid parts, and call it, in respect of those solid parts, extension; or whether, considering it as lying between the extremities of any body in its several dimensions,

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body without extension. I ask them to consider this. Had they reflected on their ideas of tastes and smells as much as on those of sight and touch, or even examined their ideas of hunger and thirst and various other pains, they would have found that these include no idea of extension at all. Extension is only an affection of body, like the rest, discoverable by our senses, which are hardly sharp enough to see into the pure essences of things.

If ideas that are constantly joined to all others must for that reason be concluded to be the essence of the things that always have those ideas joined to them and are inseparable from them, then unity is without doubt the essence of everything. For there is no object of sensation or reflection that does not carry with it the idea of one. But we have already shown well enough how weak this kind of argument is.

Ideas of space and solidity distinct.—To conclude: whatever people may think about the existence of a vacuum, this much is plain to me. We have as clear an idea of space distinct from solidity as we have of solidity distinct from motion, or of motion distinct from space. We have no two ideas more distinct than these. We can as easily conceive space without solidity as we can conceive body or space without motion, however certain it is that neither body nor motion can exist without space.

But whether anyone will take space to be merely a relation arising from the existence of other beings at a distance from each other, or whether they will think that the words of the most knowing king Solomon, “The heaven, and the heaven of heavens cannot contain thee,” or the still more emphatic words of the inspired philosopher St. Paul, “In him we live, move, and have our being,” are to be understood literally, I leave everyone to consider. I say only that our idea of space is, I think, as I have described it, and distinct from our idea of body.[18]

Perhaps we consider, in matter itself, the distance between its coherent solid parts, and call it extension with respect to those solid parts. Perhaps we consider it as lying between the extremities of a

18 The quotations are from 1 Kings 8:27 and Acts 17:28.

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we call it length, breadth, and thickness; or else, considering it as lying between any two bodies or positive beings, without any consideration whether there be any matter or no between, we call it distance: however named or considered, it is always the same uniform simple idea of space, taken from objects about which our senses have been conversant;

whereof having settled ideas in our minds, we can revive, repeat, and add them one to another as often as we will, and consider the space or distance so imagined either as filled with solid parts, so that another body cannot come there without displacing and thrusting out the body that was there before, or else as void of solidity, so that a body of equal dimensions to that empty or pure space may be placed in it without the removing or expulsion of any thing that was there.

But, to avoid confusion in discourses concerning this matter, it were possibly to be wished that the name extension were applied only to matter, or the distance of the extremities of particular bodies; and the term expansion to space in general, with or without solid matter possessing it, so as to say space is expanded, and body extended. But in this every one has liberty: I propose it only for the more clear and distinct way of speaking.

2.13.28 *Men differ little in clear simple ideas.*—The knowing precisely what our words stand for, would, I imagine, in this, as well as a great many other cases, quickly end the dispute: for I am apt to think that men, when they come to examine them, find their simple ideas all generally to agree, though in discourse with one another they perhaps confound one another with different names.

I imagine that men who abstract their thoughts, and do well examine the ideas of their own minds, cannot much differ in thinking, however they may perplex themselves with words, according to the way of speaking of the several schools or sects they have been bred up in; though among unthinking men, who examine not scrupulously and carefully their own ideas, and strip them not from the marks men use for them, but confound them with words, there must be

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body in its several dimensions, and call it length, breadth, and thickness. Or perhaps we consider it as lying between any two bodies or positive beings, without regard to whether there is any matter between them or not, and call it distance. However it is named or considered, it is always the same uniform simple idea of space, taken from objects our senses have dealt with.

Once we have settled ideas of this in our minds, we can revive and repeat them, and add them to one another as often as we like. And we can consider the space or distance so imagined in either of two ways. We can consider it as filled with solid parts, so that another body cannot come there without displacing and pushing out the body that was there before. Or we can consider it as empty of solidity, so that a body of the same dimensions as that empty or pure space can be placed in it without removing or expelling anything that was there.

But to avoid confusion in discussions of this matter, it might perhaps be desirable that the name extension were applied only to matter, or to the distance between the extremities of particular bodies, and the term expansion to space in general, whether or not solid matter occupies it. We would then say that space is expanded and body extended. But everyone is free in this. I propose it only as a clearer and more distinct way of speaking.

Men differ little in clear simple ideas.—Knowing precisely what our words stand for would, I imagine, quickly end the dispute in this case, as in a great many others. For I am inclined to think that when people come to examine their simple ideas, they find them generally all in agreement, though in talking with one another they may confuse each other by using different names.

I imagine that people who abstract their thoughts and examine the ideas in their own minds carefully cannot differ much in their thinking, however they may tangle themselves up in words according to the ways of speaking of the various schools or sects they were brought up in. Unthinking people, though, do not examine their own ideas scrupulously and carefully. They do not strip their ideas of the marks people use for them, but

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endless dispute, wrangling, and jargon; especially if they be learned bookish men, devoted to some sect, and accustomed to the language of it, and have learned to talk after others.

But if it should happen that any two thinking men should really have different ideas, I do not see how they could discourse or argue one with another. Here I must not be mistaken, to think that every floating imagination in men's brains is presently of that sort of ideas I speak of. It is not easy for the mind to put off those confused notions and prejudices it has imbibed from custom, inadvertency, and common conversation: it requires pains and assiduity to examine its ideas, till it resolves them into those clear and distinct simple ones, out of which they are compounded; and to see which, among its simple ones, have or have not a necessary connexion and dependence one upon another.

Till a man doth this in the primary and original notion of things, he builds upon floating and uncertain principles, and will often find himself at a loss.

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confuse them with words. Among such people there is bound to be endless dispute, wrangling, and jargon, especially if they are learned, bookish people who are devoted to some sect, used to its language, and have learned to talk by repeating others.

But if it should happen that any two thinking people really had different ideas, I do not see how they could talk or argue with each other. Here I must not be misunderstood as thinking that every stray fancy floating in people's brains is automatically one of the sort of ideas I am speaking of. It is not easy for the mind to shed the confused notions and prejudices it has absorbed from custom, carelessness, and ordinary conversation. It takes effort and persistence for the mind to examine its ideas until it resolves them into the clear and distinct simple ones they are compounded of. It also takes effort to see which of its simple ones have, or do not have, a necessary connection with and dependence on one another.

Until a person does this with the primary and original notions of things, he builds on floating and uncertain principles, and will often find himself at a loss.

DURATION

The idea of duration comes from reflecting on the train of ideas passing through the mind.

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2.14.1 *Duration is fleeting extension.*—There is another sort of distance or length, the idea whereof we get not from the permanent parts of space, but from the fleeting and perpetually perishing parts of succession. This we call duration, the simple modes whereof are any different lengths of it whereof we have distinct ideas, as hours, days, years, &c. time and eternity.

2.14.2 *Its idea from reflection on the train of our ideas.*—The answer of a great man to one who asked what time was "*Si non rogas intelligo*," (which amounts to this, the more I set myself to think of it, the less I understand it) might perhaps persuade one that time, which reveals all other things, is itself not to be discovered. Duration, time, and eternity, are not without reason thought to have something very abstruse in their nature. But however remote these may seem from our comprehension,

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Duration is fleeting extension.—There is another sort of distance or length, the idea of which we get not from the permanent parts of space but from the fleeting and perpetually perishing parts of succession. This we call duration. Its simple modes are any different lengths of it of which we have distinct ideas, such as hours, days, years, and so on, and time and eternity.

Its idea from reflection on the train of our ideas.—A great man was once asked what time was, and he answered, "*Si non rogas intelligo*," which amounts to this: the more I set myself to think about it, the less I understand it. That answer might perhaps persuade one that time, which reveals all other things, cannot itself be discovered. Duration, time, and eternity are, not without reason, thought to have something very obscure in their nature. But however remote from our comprehension these

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yet if we trace them right to their originals, I doubt not but one of those sources of all our knowledge, viz.

sensation and reflection, will be able to furnish us with these ideas as clear and distinct as many others which are thought much less obscure; and we shall find that the idea of eternity itself is derived from the same common original with the rest of our ideas.

2.14.3 To understand time and eternity aright, we ought with attention to consider what idea it is we have of duration, and how we came by it. It is evident to any one, who will but observe what passes in his own mind, that there is a train of ideas which constantly succeed one another in his understanding as long as he is awake.

Reflection on these appearances of several ideas, one after another, in our minds, is that which furnishes us with the idea of succession; and the distance between any parts of that succession, or between the appearance of any two ideas in our minds, is that we call duration: for whilst we are thinking, or whilst we receive successively several ideas in our minds, we know that we do exist; and so we call the existence, or the continuation of the existence of ourselves, or any thing else, commensurate to the succession of any ideas in our minds, the duration of ourselves, or any other thing co-existent with our thinking.

2.14.4 That we have our notion of succession and duration from this original, viz. from reflection on the train of ideas which we find to appear one after another in our own minds, seems plain to me, in that we have no perception of duration, but by considering the train of ideas that take their turns in our understandings.

When that succession of ideas ceases, our perception of duration ceases with it; which every one clearly experiments in himself, whilst he sleeps soundly, whether an hour or a day, a month or a year; of which duration of things, while he sleeps or thinks not, he has no perception at all, but it is quite lost to him; and the moment wherein he leaves off to think, till the moment he begins to think again, seems to him to have no

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may seem, if we trace them correctly to their origins, I have no doubt that one of those sources of all our knowledge, namely,[19]

sensation and reflection, will be able to supply us with these ideas as clear and distinct as many others that are thought far less obscure. And we shall find that the idea of eternity itself comes from the same common origin as the rest of our ideas.

To understand time and eternity properly, we should consider attentively what idea we have of duration and how we came by it. Anyone who will simply observe what goes on in his own mind can see that a train of ideas constantly succeed one another in his understanding as long as he is awake.

Reflection on these appearances of various ideas, one after another, in our minds is what supplies us with the idea of succession. And the distance between any parts of that succession, or between the appearance of any two ideas in our minds, is what we call duration. For while we are thinking, or while we receive several ideas in succession in our minds, we know that we exist. So we measure the existence, or the continuation of the existence, of ourselves or of anything else against the succession of ideas in our minds. That existence, so measured, we call the duration of ourselves or of anything else that coexists with our thinking.

We get our notion of succession and duration from this origin, namely from reflection on the train of ideas we find appearing one after another in our own minds. This seems plain to me from the fact that we have no perception of duration except by considering the train of ideas that take their turns in our understandings.

When that succession of ideas stops, our perception of duration stops with it. Everyone clearly experiences this in himself while he sleeps soundly, whether for an hour or a day, a month or a year. Of this duration of things while he sleeps or does not think, he has no perception at all. It is entirely lost to him. The moment at which he stops thinking and the moment he begins to think again seem to him to have no distance between them. And I have

19 The "great man" is Augustine (*Confessions* 11.14): "If no one asks me, I know; if I want to explain it to someone who asks, I do not know." The Latin as Locke gives it means "If you do not ask, I understand."

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distance. And so I doubt not it would be to a waking man, if it were possible for him to keep only one idea in his mind, without variation and the succession of others.

And we see that one who fixes his thoughts very intently on one thing, so as to take but little notice of the succession of ideas that pass in his mind, whilst he is taken up with that earnest contemplation, lets slip out of his account a good part of that duration, and thinks that time shorter than it is.

But if sleep commonly unites the distant parts of duration, it is because during that time we have no succession of ideas in our minds: for if a man, during his sleep, dreams, and variety of ideas make themselves perceptible in his mind one after another, he hath then, during such dreaming, a sense of duration, and the length of it: by which it is to me very clear, that men derive their ideas of duration from their reflections on the train of the ideas they observe to succeed one another in their own understandings; without which observation they can have no notion of duration, whatever may happen in the world.

2.14.5 *The idea of duration applicable to things whilst we sleep.*—Indeed a man having, from reflecting on the succession and number of his own thoughts, got the notion or idea of duration, he can apply that notion to things which exist while he does not think; as he that has got the idea of extension from bodies by his sight or touch, can apply it to distances where no body is seen or felt.

And therefore, though a man has no perception of the length of duration, which passed whilst he slept or thought not, yet having observed the revolution of days and nights, and found the length of their duration to be in appearance regular and constant, he can, upon the supposition that that revolution has proceeded after the same manner whilst he was asleep, or thought not, as it used to do at other times: he can, I say, imagine and make allowance for the length of duration whilst he slept.

But if Adam and Eve (when they were alone in the world,) instead of their ordinary night's sleep, had passed the whole twenty-four hours in one continued sleep, the duration of that twenty-four

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no doubt it would be the same for a waking man, if it were possible for him to keep just one idea in his mind, without variation and without others following it.

And we see what happens when someone fixes his thoughts very intently on one thing and takes little notice of the succession of ideas passing in his mind. While he is absorbed in that earnest contemplation, he drops a good part of that duration out of his reckoning, and thinks the time shorter than it is.

But if sleep commonly joins together distant parts of duration, it is because during that time we have no succession of ideas in our minds. For if a man dreams during his sleep, and a variety of ideas make themselves perceptible in his mind one after another, then during that dreaming he has a sense of duration and of its length. From this it is very clear to me that people get their ideas of duration from reflecting on the train of ideas they observe succeeding one another in their own understandings. Without that observation they can have no notion of duration, whatever may happen in the world.

The idea of duration applicable to things while we sleep.—Indeed, once a man has got the notion or idea of duration from reflecting on the succession and number of his own thoughts, he can apply that notion to things that exist while he is not thinking. In the same way, someone who has got the idea of extension from bodies by sight or touch can apply it to distances where no body is seen or felt.

So a man has no perception of the length of duration that passed while he slept or was not thinking. Yet he has observed the revolution of days and nights, and found the length of their duration to be apparently regular and constant. So he can suppose that this revolution went on while he was asleep or not thinking in the same way as it usually does at other times. On that supposition he can, I say, imagine and make allowance for the length of duration while he slept.

But suppose Adam and Eve (when they were alone in the world) had spent the whole twenty-four hours in one continuous sleep instead of their ordinary night's sleep. The duration of those twenty-

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hours had been irrecoverably lost to them, and been for ever left out of their account of time.

2.14.6 *The idea of succession not from motion.*—Thus, by reflecting on the appearing of various ideas one after another in our understandings, we get the notion of succession; which, if any one would think we did rather get from our observation of motion by our senses, he will perhaps be of my mind when he considers, that even motion produces in his mind an idea of succession no otherwise than as it produces there a continued train of distinguishable ideas. For a man looking upon a body really moving, perceives yet no motion at all, unless that motion produces a constant train of successive ideas: v.

g. a man becalmed at sea, out of sight of land, in a fair day, may look on the sun, or sea, or ship, a whole hour together, and perceive no motion at all in either; though it be certain that two, and perhaps all of them, have moved during that time a great way. But as soon as he perceives either of them to have changed distance with some other body, as soon as this motion produces any new idea in him, then he perceives that there has been motion.

But wherever a man is, with all things at rest about him, without perceiving any motion at all; if during this hour of quiet he has been thinking, he will perceive the various ideas of his own thoughts in his own mind, appearing one after another, and thereby observe and find succession where he could observe no motion.

2.14.7 And this, I think, is the reason why motions very slow, though they are constant, are not perceived by us; because, in their remove from one sensible part toward another, their change of distance is so slow, that it causes no new ideas in us, but a good while one after another: and so not causing a constant train of new ideas to follow one another immediately in our minds, we have no perception of motion; which consisting in a constant succession, we cannot perceive that succession, without a constant succession of varying ideas arising from it.

2.14.8 On the contrary, things that move so swift as not to affect the senses distinctly with several distinguishable distances of their motion, and so

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four hours would have been irrecoverably lost to them, and left out forever from their reckoning of time.

The idea of succession not from motion.—So it is by reflecting on the appearance of various ideas one after another in our understandings that we get the notion of succession. Someone may think we get it rather from observing motion with our senses. He will perhaps come round to my view when he considers that motion produces an idea of succession in his mind only by producing there a continuous train of distinguishable ideas. For a man looking at a body that is really moving still perceives no motion at all unless that motion produces a constant train of successive ideas. For example:

a man becalmed at sea, out of sight of land, on a fine day, may look at the sun, or the sea, or the ship for a whole hour at a stretch and perceive no motion in any of them. Yet it is certain that two, and perhaps all, of them have moved a great way in that time. But as soon as he perceives that one of them has changed its distance from some other body, he perceives that there has been motion. That happens as soon as this motion produces any new idea in him.

But wherever a man is, he may have everything around him at rest and perceive no motion at all. If he has been thinking during this hour of quiet, he will perceive the various ideas of his own thoughts appearing one after another in his mind. So he will observe and find succession where he could observe no motion.

And this, I think, is the reason why we do not perceive very slow motions, though they are constant. As they move from one perceptible point toward another, their change of distance is so slow that it produces new ideas in us only at long intervals. Since it does not produce a constant train of new ideas following one another immediately in our minds, we have no perception of motion. For motion consists in a constant succession, and we cannot perceive that succession without a constant succession of changing ideas arising from it.

On the other hand, some things move so fast that they do not affect the senses distinctly with the

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cause not any train of ideas in the mind, are not also perceived to move; for any thing that moves round about in a circle in less time than our ideas are wont to succeed one another in our minds, is not perceived to move, but seems to be a perfect entire circle of that matter or colour, and not a part of a circle in motion.

2.14.9 *The train of ideas has a certain degree of quickness.*— Hence I leave it to others to judge whether it be not probable that our ideas do, whilst we are awake, succeed one another in our minds at certain distances, not much unlike the images in the inside of a lantern turned round by the heat of a candle. This appearance of theirs in train, though perhaps it may be sometimes faster, and sometimes slower, yet I guess, varies not very much in a waking man: there seem to be certain bounds to the quickness and slowness of the succession of those ideas one to another in our minds, beyond which they can neither delay nor hasten.

2.14.10 The reason I have for this odd conjecture is from observing, that in the impressions made upon any of our senses we can but to a certain degree perceive any succession; which, if exceeding quick, the sense of succession is lost, even in cases where it is evident that there is a real succession. Let a cannon-bullet pass through a room, and in its way take with it any limb or fleshy parts of a man; it is as clear as any demonstration can be, that it must strike successively the two sides of the room.

It is also evident, that it must touch one part of the flesh first, and another after, and so in succession: and yet I believe nobody who ever felt the pain of such a shot, or heard the blow against the two distant walls, could perceive any succession either in the pain or sound of so swift a stroke. Such a part of duration as this, wherein we perceive no succession, is that which we may call an instant, and is that which takes up the time of only one idea in our minds without the succession of another, wherein, therefore, we perceive no succession at all.

2.14.11 This also happens where the motion is so slow as not to supply a constant train of fresh ideas to the senses as fast as the mind is capable of receiving new ones into it; and so other ideas of our own

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several distinguishable distances of their motion, and so produce no train of ideas in the mind. These things are not perceived to move either. Suppose something goes round in a circle in less time than our ideas usually take to succeed one another in our minds. It is not perceived to move, but seems to be a perfect, complete circle of that matter or color, and not part of a circle in motion.

The train of ideas has a certain degree of quickness.— So I leave it to others to judge whether it is not probable that, while we are awake, our ideas succeed one another in our minds at certain intervals. This would be rather like the images inside a lantern turned round by the heat of a candle. Their appearance in a train may perhaps sometimes be faster and sometimes slower, but I guess it does not vary much in a waking man. There seem to be certain limits to how fast or slow the succession of those ideas in our minds can be. Beyond those limits they can neither slow down nor speed up.

I base this odd conjecture on an observation. In the impressions made on any of our senses, we can perceive succession only up to a certain degree. If it is extremely quick, the sense of succession is lost, even in cases where there is evidently a real succession. Let a cannonball pass through a room and on its way carry off a man's limb or some fleshy part of him. It is as clear as any demonstration can be that it must strike the two sides of the room one after the other.

It is also evident that it must touch one part of the flesh first and another afterward, and so on in succession. Yet I believe nobody who ever felt the pain of such a shot, or heard it strike the two distant walls, could perceive any succession in either the pain or the sound of so swift a blow. A part of duration like this, in which we perceive no succession, is what we may call an instant. It takes up the time of only one idea in our minds, without another following it, and so in it we perceive no succession at all.

The same thing happens where the motion is so slow that it does not supply a constant train of fresh ideas to the senses as fast as the mind is cap-

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thoughts, having room to come into our minds between those offered to our senses by the moving body, there the sense of motion is lost; and the body, though it really moves, yet not changing perceivable distance with some other bodies as fast as the ideas of our own minds do naturally follow one another in train, the thing seems to stand still, as is evident in the hands of clocks and shadows of sun-dials, and other constant but slow motions; where, though after certain intervals, we perceive by the change of distance that it hath moved, yet the motion itself we perceive not.

2.14.12 *This train the measure of other successions.*—So that to me it seems that the constant and regular succession of ideas in a waking man is, as it were, the measure and standard of all other successions: whereof if any one either exceeds the pace of our ideas, as where two sounds or pains, &c.

take up in their succession the duration of but one idea, or else where any motion or succession is so slow as that it keeps not pace with the ideas in our minds, or the quickness in which they take their turns; as when any one or more ideas, in their ordinary course, come into our mind between those which are offered to the sight by the different perceptible distances of a body in motion, or between sounds or smells following one another; there also the sense of a constant continued succession is lost, and we perceive it not but with certain gaps of rest between.

2.14.13 *The mind cannot fix long on one invariable idea.*—If it be so that the ideas of our minds, whilst we have any there, do constantly change and shift in a continual succession, it would be impossible, may any one say, for a man to think long of any one thing.

By which, if it be meant that a man may have one self-same single idea a long time alone in his mind, without any variation at all, I think, in matter of fact, it is not possible; for which (not knowing how the ideas of our minds are framed, of what materials they are made, whence they have their light, and how they come to make their appearances) I can give no other reason but experience; and I would have any one try whether he can keep one unvaried single idea in his mind

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able of receiving new ones. Then other ideas of our own thoughts have room to come into our minds between those offered to our senses by the moving body, and the sense of motion is lost. The body really moves, but it does not change its perceptible distance from other bodies as fast as the ideas in our minds naturally follow one another in their train, and so the thing seems to stand still. This is evident in the hands of clocks, the shadows of sundials, and other constant but slow motions. After certain intervals we perceive from the change of distance that it has moved, but the motion itself we do not perceive.

This train is the measure of other successions.—So it seems to me that the constant and regular succession of ideas in a waking man is, so to speak, the measure and standard of all other successions. Suppose some succession outruns the pace of our ideas, as where two sounds or pains, etc.,

take up in their succession the duration of only one idea. Or suppose some motion or succession is so slow that it does not keep pace with the ideas in our minds, or with the speed at which they take their turns. This happens when one or more ideas, in their ordinary course, come into our mind between those offered to sight by the different perceptible distances of a moving body, or between sounds or smells that follow one another. In both cases the sense of a constant, continuous succession is lost, and we perceive it only with certain gaps of rest in between.

The mind cannot fix long on one invariable idea.—Someone may say that if the ideas in our minds, while we have any there, constantly change and shift in a continual succession, then it would be impossible for a man to think about any one thing for long.

This may mean that a man can have one and the same single idea alone in his mind for a long time, without any variation at all. If so, I think that as a matter of fact this is not possible. For this I can give no reason but experience, since I do not know how the ideas of our minds are formed, what materials they are made of, where they get their light, or how they come to make their appearances. And I would have anyone try whether he can keep one

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without any other, for any considerable time together.

2.14.14 For trial, let him take any figure, any degree of light or whiteness, or what other he pleases; and he will, I suppose, find it difficult to keep all other ideas out of his mind; but that some, either of another kind, or various considerations of that idea (each of which considerations is a new idea) will constantly succeed one another in his thoughts, let him be as wary as he can.

2.14.15 All that is in a man's power in this case, I think, is only to mind and observe what the ideas are that take their turns in his understanding; or else to direct the sort, and call in such as he hath a desire or use of: but hinder the constant succession of fresh ones, I think, he cannot, though he may commonly choose whether he will heedfully observe and consider them.

2.14.16 *Ideas, however made, include no sense of motion.*— Whether these several ideas in a man's mind be made by certain motions, I will not here dispute: but this I am sure, that they include no idea of motion in their appearance; and if a man had not the idea of motion otherwise, I think he would have none at all; which is enough to my present purpose, and sufficiently shows that the notice we take of the ideas of our own minds appearing there one after another, is that which gives us the idea of succession and duration, without which we should have no such ideas at all.

It is not then motion, but the constant train of ideas in our minds, whilst we are waking, that furnishes us with the idea of duration; whereof motion no otherwise gives us any perception than as it causes in our minds a constant succession of ideas, as I have before showed: and we have as clear an idea of succession and duration, by the train of other ideas succeeding one another in our minds, without the idea of any motion, as by the train of ideas caused by the uninterrupted sensible change of distance between two bodies, which we have from motion; and therefore we should as well have the idea of duration were there no sense of motion at all.

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single, unvaried idea in his mind, without any other, for any considerable stretch of time.

As a test, let him take any shape, any degree of light or whiteness, or whatever else he likes. He will, I suppose, find it hard to keep all other ideas out of his mind. Instead, other ideas will constantly follow one another in his thoughts, however careful he may be. Some will be ideas of another kind, and some will be various considerations of that idea, each of which considerations is a new idea.

All that is in a man's power here, I think, is to attend to and observe what ideas take their turns in his understanding, or else to direct what sort they are and call in such as he wants or has a use for. But he cannot, I think, prevent the constant succession of fresh ones, though he can usually choose whether to observe and consider them attentively.

Ideas, however made, include no sense of motion.—I will not argue here about whether these various ideas in a man's mind are produced by certain motions. But of this I am sure: they include no idea of motion in their appearance. If a man did not have the idea of motion from some other source, I think he would have none at all. That is enough for my present purpose. It shows sufficiently that we get the idea of succession and duration from noticing the ideas of our own minds appearing there one after another. Without that notice we would have no such ideas at all.

It is not motion, then, but the constant train of ideas in our minds while we are awake, that supplies us with the idea of duration. Motion gives us a perception of duration only insofar as it produces a constant succession of ideas in our minds, as I showed before. We get ideas from motion when two bodies change their distance uninterruptedly and perceptibly. But the train of other ideas succeeding one another in our minds, without the idea of any motion, gives us just as clear an idea of succession and duration. So we would have the idea of duration just as well if there were no sense of motion at all.

MEASURES OF TIME

Time is duration measured by regular periodic appearances, such as the revolutions of the sun.

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2.14.17	*Time is duration set out by measures.*—Having thus got the idea of duration, the next thing natural for the mind to do is to get some measure of this common duration, whereby it might judge of its different lengths, and consider the distinct order wherein several things exist, without which a great part of our knowledge would be confused, and a great part of history be rendered very useless. This consideration of duration, as set out by certain periods, and marked by certain measures or epochs, is that, I think, which most properly we call time.	*Time is duration set out by measures.*—Having got the idea of duration in this way, the next natural thing for the mind to do is to get some measure of this common duration. By this measure it can judge its different lengths and consider the distinct order in which various things exist. Without this a great part of our knowledge would be confused, and a great part of history would be made quite useless. We can consider duration as set out by certain periods and marked by certain measures or epochs. This, I think, is what we most properly call time.
2.14.18	*A good measure of time must divide its whole duration into equal periods.*—In the measuring of extension there is nothing more required but the application of the standard or measure we make use of to the thing of whose extension we would be informed. But in the measuring of duration this cannot be done, because no two different parts of succession can be put together to measure one another: and nothing being a measure of duration but duration, as nothing is of extension but extension, we cannot keep by us any standing unvarying measure of duration, which consists in a constant fleeting succession, as we can of certain lengths of extension, as inches, feet, yards, &c. marked out in permanent parcels of matter. Nothing, then, could serve well for a convenient measure of time but what has divided the whole length of its duration into apparently equal portions, by constantly repeated periods. What portions of duration are not distinguished, or considered as distinguished and measured by such periods, come not so properly under the notion of time, as appears by such phrases as these, viz. before all time, and when time shall be no more.	*A good measure of time must divide its whole duration into equal periods.*—In measuring extension, all we need to do is apply our standard or measure to the thing whose extension we want to know. But in measuring duration this cannot be done, because no two different parts of succession can be put together to measure each other. Nothing is a measure of duration but duration, just as nothing is a measure of extension but extension. We can keep by us certain lengths of extension, such as inches, feet, yards, and so on, marked out on permanent pieces of matter. But duration consists in a constant fleeting succession, and so we cannot keep by us any standing, unvarying measure of it. Nothing, then, could serve well as a convenient measure of time except something that has divided the whole length of its duration into apparently equal portions by constantly repeated periods. Portions of duration that are not distinguished and measured by such periods, or considered as so distinguished and measured, do not so properly fall under the notion of time. This appears from phrases like “before all time” and “when time shall be no more.”
2.14.19	*The revolutions of the sun and moon, the properest measures of time.*—The diurnal and annual revolutions of the sun, as having been, from the beginning of nature, constant, regular, and universally observable by all mankind, and supposed equal to one another, have been with	*The revolutions of the sun and moon, the most proper measures of time.*—The daily and yearly revolutions of the sun have, with reason, been used as the measure of duration. From the beginning of nature they have been constant, regular, and observable by all mankind everywhere, and they are

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reason made use of for the measure of duration. But the distinction of days and years having depended on the motion of the sun, it has brought this mistake with it, that it has been thought that motion and duration were the measure one of another: for men, in the measuring of the length of time, having been accustomed to the ideas of minutes, hours, days, months, years, &c.

which they found themselves upon any mention of time or duration presently to think on, all which portions of time were measured out by the motion of those heavenly bodies; they were apt to confound time and motion, or at least to think that they had a necessary connexion one with another: whereas any constant periodical appearance or alteration of ideas in seemingly equidistant spaces of duration, if constantly and universally observable, would have as well distinguished the intervals of time as those that have been made use of.

For supposing the sun, which some have taken to be a fire, had been lighted up at the same distance of time that it now every day comes about to the same meridian, and then gone out again about twelve hours after, and that in the space of an annual revolution it had sensibly increased in brightness and heat, and so decreased again; would not such regular appearances serve to measure out the distances of duration, to all that could observe it, as well without as with motion? For if the appearances were constant, universally observable, and in equidistant periods, they would serve mankind for measures of time as well, were the motion away.

2.14.20 *But not by their motion, but periodical appearances.*— For the freezing of water, or the blowing of a plant, returning at equidistant periods in all parts of the earth, would as well serve men to reckon their years by, as the motions of the sun: and in effect we see that some people in America counted their years by the coming of certain birds among them at their certain seasons, and leaving them at others. For a fit of an ague, the sense of hunger or thirst, a smell, or a taste, or any other idea returning constantly at equidistant periods, and making itself universally be taken notice of, would not fail to measure out the course of succession, and distinguish the distance of time.

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supposed to be equal to one another. But since the distinction of days and years has depended on the motion of the sun, it has brought with it this mistake: people have thought that motion and duration were measures of each other. For in measuring the length of time, people have become accustomed to the ideas of minutes, hours, days, months, years, etc.,

and they found themselves thinking of these immediately whenever time or duration was mentioned. All these portions of time were measured out by the motion of those heavenly bodies, and so people were apt to confuse time and motion, or at least to think they had a necessary connection with each other. Yet other intervals would have marked off time just as well as the ones that have been used. Any constant periodic appearance or alteration of ideas at seemingly equal intervals of duration would have served, if it were constantly and universally observable.

Suppose the sun, which some have taken to be a fire, had been lit at the same interval at which it now comes round to the same meridian every day, and then gone out again about twelve hours later. And suppose that over the course of a yearly revolution it had noticeably increased in brightness and heat, and then decreased again. Would such regular appearances not serve to measure out the intervals of duration for everyone who could observe them, as well without motion as with it? For if the appearances were constant, universally observable, and at equal intervals, they would serve mankind as measures of time just as well if the motion were taken away.

Not by their motion, but by their periodic appearances. —The freezing of water, or the flowering of a plant, recurring at equal intervals in all parts of the earth, would serve people as well to reckon their years by as the motions of the sun. And in fact we see that some peoples in America counted their years by the arrival of certain birds among them in their seasons and their departure at others. A bout of fever, the feeling of hunger or thirst, a smell, a taste, or any other idea would serve the same purpose, if it recurred constantly at equal intervals and made itself noticed by everyone. It would not fail to measure out the course of succession and mark off intervals of time.

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Thus, we see that men born blind count time well enough by years, whose revolutions yet they cannot distinguish by motions that they perceive not: and I ask whether a blind man, who distinguished his years either by the heat of summer or cold of winter; by the smell of any flower of the spring, or taste of any fruit of the autumn; would not have a better measure of time than the Romans had before the reformation of their calendar by Julius Cæsar, or many other people, whose years, notwithstanding the motion of the sun, which they pretend to make use of, are very irregular?

And it adds no small difficulty to chronology, that the exact lengths of the years that several nations counted by are hard to be known, they differing very much one from another, and I think I may say all of them from the precise motion of the sun.

And if the sun moved from the creation to the flood, constantly in the equator, and so equally dispersed its light and heat to all habitable parts of the earth, in days all of the same length, without its annual variations to the tropics, as a late ingenious author supposes[1]: I do not think it very easy to imagine that (notwithstanding the motion of the sun) men should, in the antediluvian world, from the beginning, count by years, or measure their time by periods, that had no sensible marks very obvious to distinguish them by.

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2.14.21 *No two parts of duration can be certainly known to be equal.*—But perhaps it will be said, without a regular motion, such as of the sun or some other, how could it ever be known that such periods were equal?

To which I answer, the equality of any other returning appearances might be known by the same way that that of days was known or presumed to be so at first; which was only by

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Thus we see that people born blind keep count of time well enough by years, though they cannot tell the revolutions of years by motions they do not perceive. Suppose a blind man marked off his years by the heat of summer or the cold of winter, or by the smell of some spring flower or the taste of some autumn fruit. I ask whether he would not have a better measure of time than the Romans had before Julius Caesar reformed their calendar. I ask the same about many other peoples, whose years are very irregular despite the motion of the sun they claim to use.[20]

It adds no small difficulty to chronology that we can hardly determine the exact lengths of the years various nations counted by. They differ greatly from one another, and all of them, I think I may say, differ from the precise motion of the sun.

A recent ingenious author supposes[1] that from the creation to the flood the sun moved constantly in the equator. On this view it spread its light and heat equally over all the habitable parts of the earth, in days all of the same length, without its yearly swings toward the tropics. If so, I do not think it very easy to imagine people in the world before the flood counting by years from the beginning, despite the motion of the sun. Nor is it easy to imagine them measuring their time by periods that had no very obvious perceptible marks to distinguish them.

No two parts of duration can be certainly known to be equal.—But perhaps it will be said: without a regular motion, such as the sun's or some other, how could anyone ever know that such periods were equal?

I answer that the equality of any other recurring appearances could be known in the same way that the equality of days was known, or presumed, at first. People only judged the days by the train of

20 Julius Caesar's reform of 46 BC replaced the irregular Roman lunar-based calendar with the solar Julian calendar.

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[1] Dr Burnet's Theory of the Earth.

[1] Dr. Burnet's *Theory of the Earth*.[21]

21 Thomas Burnet (c. 1635–1715), *The Sacred Theory of the Earth* (Latin 1681, English 1684), argued that the earth before the flood had no seasons.

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judging of them by the train of ideas which had passed in men's mind, in the intervals: by which train of ideas discovering inequality in the natural days, but none in the artificial days, the artificial days, or νυχθήμερα, were guessed to be equal, which was sufficient to make them serve for a measure: though exacter search has since discovered inequality in the diurnal revolutions of the sun, and we know not whether the annual also be not unequal.

These yet, by their presumed and apparent equality, serve as well to reckon time by (though not to measure the parts of duration exactly) as if they could be proved to be exactly equal. We must therefore carefully distinguish betwixt duration itself and the measures we make use of to judge of its length. Duration in itself is to be considered as going on in one constant, equal, uniform, course: but none of the measures of it, which we make use of, can be known to do so; nor can we be assured that their assigned parts or periods are equal in duration one to another; for two successive lengths of duration, however measured, can never be demonstrated to be equal.

The motion of the sun, which the world used so long and so confidently for an exact measure of duration, has, as I said, been found in its several parts unequal: and though men have of late made use of a pendulum, as a more steady and regular motion than that of the sun, or (to speak more truly) of the earth; yet if any one should be asked how he certainly knows that the two successive swings of a pendulum are equal, it would be very hard to satisfy him that they are infallibly so:

since we cannot be sure that the cause of that motion, which is unknown to us, shall always operate equally: and we are sure that the medium in which the pendulum moves is not constantly the same: either of which varying, may alter the equality of such periods, and thereby destroy the certainty and exactness of the measure by motion, as well as any other periods of other appearances; the notion of duration still remaining clear, though our measures of it cannot any of them be demonstrated to be exact.

Since then no two portions of succession can be brought together, it is impossible ever certainly to

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ideas that had passed in their minds during the intervals. By that train of ideas they found inequality in natural days but none in artificial days. So they guessed that the artificial days, or νυχθήμερα, were equal, and that was enough to let them serve as a measure. More exact investigation has since found inequality in the daily revolutions of the sun, however, and we do not know whether the yearly ones are not unequal too.[23]

Still, because we presume them equal and they appear equal, these serve as well to reckon time by as if they could be proved to be exactly equal, though they do not measure the parts of duration exactly. We must therefore carefully distinguish between duration itself and the measures we use to judge its length. Duration in itself is to be considered as going on in one constant, equal, uniform course. But none of the measures of it that we use can be known to do so, nor can we be sure that their assigned parts or periods are equal in duration to one another. For two successive lengths of duration, however they are measured, can never be demonstrated to be equal.

The world used the motion of the sun for a long time, and with great confidence, as an exact measure of duration. Yet, as I said, it has been found unequal in its various parts. People have lately made use of a pendulum, as a steadier and more regular motion than that of the sun (or, to speak more truly, of the earth). Yet suppose someone were asked how he knows for certain that two successive swings of a pendulum are equal. It would be very hard to convince him that they are infallibly so,

since we cannot be sure that the cause of that motion, which is unknown to us, will always operate equally. And we are sure that the medium the pendulum moves in is not always the same. If either of these varies, it may alter the equality of such periods. That would destroy the certainty and exactness of measurement by motion, just as with any periods of other appearances. The notion of duration still remains clear, even though none of our measures of it can be demonstrated to be exact.

Since, then, no two portions of succession can be brought together, it is impossible ever to know for

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know their equality. All that we can do for a measure of time, is to take such as have continual successive appearances at seemingly equidistant periods; of which seeming equality we have no other measure but such as the train of our own ideas have lodged in our memories, with the concurrence of other probable reasons, to persuade us of their equality.

2.14.22 *Time not the measure of motion.*—One thing seems strange to me, that whilst all men manifestly measured time by the motion of the great and visible bodies of the world, time yet should be defined to be the "measure of motion;" whereas it is obvious to every one who reflects ever so little on it, that, to measure motion, space is as necessary to be considered as time; and those who look a little farther, will find also the bulk of the thing moved necessary to be taken into the computation by any one who will estimate or measure motion, so as to judge right of it.

Nor indeed does motion any otherwise conduce to the measuring of duration, than as it constantly brings about the return of certain sensible ideas in seeming equidistant periods. For if the motion of the sun were as unequal as of a ship driven by unsteady winds, sometimes very slow, and at others irregularly very swift; or if, being constantly equally swift, it yet was not circular, and produced not the same appearances, it would not at all help us to measure time, any more than the seeming unequal motion of a comet does.

2.14.23 *Minutes, hours, days, and years, not necessary measures of duration.*—Minutes, hours, days, and years, are then no more necessary to time or duration, than inches, feet, yards, and miles, marked out in any matter, are to extension: for though we in this part of the universe, by the constant use of them, as of periods set out by the revolutions of the sun, or as known parts of such periods, have fixed the ideas of such lengths of duration in our minds, which we apply to all parts of time, whose lengths we would consider; yet there may be other parts of the universe, where they no more use these measures of ours, than in

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certain that they are equal. All we can do for a measure of time is to take things that have continual successive appearances at seemingly equal intervals. And we have only one measure of that seeming equality: what the train of our own ideas has lodged in our memories. This, together with other probable reasons, persuades us that they are equal.

Time not the measure of motion.—One thing seems strange to me. Everyone plainly measured time by the motion of the great, visible bodies of the world, and yet time should be defined as "the measure of motion." Anyone who reflects even a little can see that in measuring motion, space must be considered just as much as time. And those who look a little further will also find something else. Anyone who wants to estimate or measure motion so as to judge it correctly must take the bulk of the thing moved into the calculation.[24]

Nor does motion in fact help to measure duration in any other way than by constantly bringing about the return of certain perceptible ideas at seemingly equal intervals. Suppose the motion of the sun were as unequal as that of a ship driven by unsteady winds, sometimes very slow and at other times irregularly very fast. Or suppose it were constantly equally fast but not circular, and did not produce the same appearances. Then it would not help us at all to measure time, any more than the seemingly unequal motion of a comet does.

Minutes, hours, days, and years, not necessary measures of duration.—Minutes, hours, days, and years, then, are no more necessary to time or duration than inches, feet, yards, and miles marked out on some material are to extension. We in this part of the universe use them constantly as periods marked off by the revolutions of the sun, or as known parts of such periods. By this constant use we have fixed the ideas of such lengths of duration in our minds, and we apply them to all parts of time whose length we want to consider. Yet there may be other parts of the universe where they no more use these measures of ours than people in Ja-

23 Greek *nychthēmera*, "night-days": full twenty-four-hour periods. Locke's "natural days" here are the varying stretches of daylight.
24 The definition goes back to Aristotle (*Physics* 4.11–12), who called time "the number" or "measure" of motion; it was standard in the schools.

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Japan they do our inches, feet, or miles; but yet something analogous to them there must be.

For without some regular periodical returns, we could not measure ourselves, or signify to others the length of any duration, though at the same time the world were as full of motion as it is now, but no part of it disposed into regular and apparently equidistant revolutions. But the different measures that may be made use of for the account of time do not at all alter the notion of duration, which is the thing to be measured, no more than the different standards of a foot and a cubit alter the notion of extension to those who make use of those different measures.

2.14.24 *Our measure of time applicable to duration before time.*—The mind having once got such a measure of time as the annual revolution of the sun, can apply that measure to duration, wherein that measure itself did not exist, and with which, in the reality of its being, it had nothing to do: for should one say, that Abraham was born in the two thousand seven hundred and twelfth year of the Julian period, it is altogether as intelligible as reckoning from the beginning of the world, though there were so far back no motion of the sun, nor any motion at all.

For though the Julian period be supposed to begin several hundred years before there were really either days, nights, or years, marked out by any revolutions of the sun; yet we reckon as right, and thereby measure durations as well, as if really at that time the sun had existed, and kept the same ordinary motion it doth now. The idea of duration equal to an annual revolution of the sun is as easily applicable in our thoughts to duration, where no sun nor motion was, as the idea of a foot or yard, taken from bodies here, can be applied in our thoughts to distances beyond the confines of the world, where are no bodies at all.

2.14.25 For supposing it were five thousand six hundred and thirty-nine miles, or millions of miles, from this place to the remotest body of the universe (for, being finite, it must be at a certain distance) as we suppose it to be five thousand six hundred and thirty-nine years from this time to the first

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pan use our inches, feet, or miles. But something analogous to them there must be.

For without some regular periodic returns we could not measure for ourselves, or indicate to others, the length of any duration. This would hold even if the world were as full of motion as it is now, as long as no part of it was arranged into regular and apparently equal revolutions. But the different measures that may be used for reckoning time do not alter in the least the notion of duration, which is the thing to be measured. People use the different standards of a foot and a cubit, and these no more alter the notion of extension for them.

Our measure of time applicable to duration before time.—Once the mind has got such a measure of time as the yearly revolution of the sun, it can apply that measure to duration in which that measure itself did not exist, and with which, in its actual being, it had nothing to do. Suppose someone says that Abraham was born in the two thousand seven hundred and twelfth year of the Julian period. That is just as intelligible as reckoning from the beginning of the world, even though that far back there was no motion of the sun, nor any motion at all.[25]

The Julian period is supposed to begin several hundred years before there actually were any days, nights, or years marked out by revolutions of the sun. Yet we still reckon correctly, and so measure durations just as well, as if the sun had really existed at that time and kept the same ordinary motion it has now. We can take the idea of a foot or a yard from bodies here and apply it in our thoughts to distances beyond the bounds of the world, where there are no bodies at all. Just as easily, we can apply in our thoughts the idea of a duration equal to one yearly revolution of the sun to duration where there was no sun and no motion.

Suppose it were five thousand six hundred and thirty-nine miles, or millions of miles, from here to the most remote body in the universe. Since the universe is finite, that body must be at some definite distance. And suppose, as we do, that it is five thousand six hundred and thirty-nine years from

25 The Julian period, devised by Joseph Scaliger (1583), is a 7,980-year chronological cycle whose starting point (4713 BC) falls before the commonly assumed date of creation.

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existence of any body in the beginning of the world; we can in our thoughts, apply this measure of a year to duration before the creation, or beyond the duration of bodies or motion, as we can this measure of a mile to space beyond the utmost bodies; and by the one measure duration where there was no motion, as well as by the other measure space in our thoughts where there is no body.

2.14.26 If it be objected to me here, that, in this way of explaining of time, I have begged what I should not, viz. that the world is neither eternal nor infinite; I answer, that to my present purpose it is not needful, in this place, to make use of arguments to evince the world to be finite, both in duration and extension; but it being at least as conceivable as the contrary, I have certainly the liberty to suppose it, as well as any one hath to suppose the contrary; and I doubt not but that every one that will go about it, may easily conceive in his mind the beginning of motion, though not of all duration, and so may come to a stop and non ultra in his consideration of motion.

So also in his thoughts he may set limits to body and the extension belonging to it, but not to space where no body is; the utmost bounds of space and duration being beyond the reach of thought, as well as the utmost bounds of number are beyond the largest comprehension of the mind; and all for the same reason, as we shall see in another place.

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now back to the first existence of any body at the beginning of the world. We can, in our thoughts, apply this measure of a year to duration before the creation, or beyond the duration of bodies or motion. In the same way we can apply this measure of a mile to space beyond the outermost bodies. So by the one measure we can measure duration where there was no motion, just as by the other we can measure space in our thoughts where there is no body.

It may be objected here that in this way of explaining time I have taken for granted what I should not, namely that the world is neither eternal nor infinite. I answer that for my present purpose it is not necessary at this point to use arguments to prove that the world is finite in both duration and extension. But since this is at least as conceivable as the contrary, I certainly have the liberty to suppose it, just as anyone has the liberty to suppose the contrary. And I have no doubt that anyone who tries can easily conceive in his mind the beginning of motion, though not of all duration. So he can come to a stop, a non ultra ("no further"), in his consideration of motion.

In the same way he can set limits in his thoughts to body and the extension belonging to it, but not to space where there is no body. The utmost bounds of space and duration are beyond the reach of thought, just as the utmost bounds of number are beyond the widest grasp of the mind. All this is for the same reason, as we shall see in another place.

ETERNITY

By repeating measures of time without end, the mind comes to the idea of eternity.

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2.14.27 *Eternity.*—By the same means, therefore, and from the same original that we come to have the idea of time, we have also that idea which we call eternity; viz. having got the idea of succession and duration, by reflecting on the train of our own ideas, caused in us either by the natural appearances of those ideas coming constantly of themselves into our waking thoughts, or else caused by external objects successively affecting our senses;

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Eternity.—By the same means, then, and from the same origin by which we come to have the idea of time, we also have the idea we call eternity. It happens like this: having gotten the idea of succession and duration by reflecting on the train of our own ideas, which are caused in us either by those ideas naturally appearing and coming constantly of their own accord into our waking thoughts, or by external objects affecting our senses one after another;

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and having from the revolutions of the sun got the ideas of certain lengths of duration, we can in our thoughts add such lengths of duration to one another, as often as we please, and apply them, so added, to durations past or to come: and this we can continue to do on, without bounds or limits, and proceed in infinitum, and apply thus the length of the annual motion of the sun to duration, supposed before the sun's, or any other motion had its being; which is no more difficult or absurd, than to apply the notion I have of the moving of a shadow one hour to-day upon the sun dial to the duration of something last night, v.

g. the burning of a candle, which is now absolutely separate from all actual motion; and it is as impossible for the duration of that flame for an hour last night to coexist with any motion that now is, or for ever shall be, as for any part of duration, that was before the beginning of the world to coexist with the motion of the sun now.

But yet this hinders not, but that having the idea of the length of the motion of the shadow on a dial between the marks of two hours, I can as distinctly measure in my thoughts the duration of that candlelight last night, as I can the duration of any thing that does now exist: and it is no more than to think, that had the sun shone then on the dial, and moved after the same rate it doth now, the shadow on the dial would have passed from one hour line to another, whilst that flame of the candle lasted.

2.14.28 The notion of an hour, day, or year, being only the idea I have of the length of certain periodical regular motions, neither of which motions do ever all at once exist, but only in the ideas I have of them in my memory, derived from my senses or reflection; I can with the same ease, and for the same reason, apply it in my thoughts to duration antecedent to all manner of motion, as well as to any thing that is but a minute, or a day, antecedent to the motion, that at this very moment the sun is in.

All things past are equally and perfectly at rest; and to this way of consideration of them are all one, whether they were before the beginning of the world, or but yesterday: the measuring of any duration by some motion depending not at all on the real coexistence of that thing to that motion, or any other periods of revolution, but the having

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and having gotten from the revolutions of the sun the ideas of certain lengths of duration, we can in our thoughts add such lengths of duration to one another as often as we please, and apply them, so added, to durations past or to come. We can go on doing this without bounds or limits, proceeding to infinity. In this way we can apply the length of the sun's annual motion to duration supposed to have existed before the sun's motion, or any other motion, came into being. This is no more difficult or absurd than to apply the notion I have of a shadow moving for one hour today on the sundial to the duration of something last night—for example,

the burning of a candle, which is now completely separate from all actual motion. It is as impossible for the duration of that flame for an hour last night to coexist with any motion that exists now, or ever will, as it is for any part of the duration that came before the beginning of the world to coexist with the sun's present motion.

But this does not stop me. Having the idea of the length of the shadow's motion on a dial between the marks of two hours, I can measure in my thoughts the duration of that candlelight last night as distinctly as I can the duration of anything that exists now. It is no more than to think that, had the sun shone on the dial then and moved at the same rate it does now, the shadow on the dial would have passed from one hour line to the next while that candle flame lasted.

The notion of an hour, a day, or a year is only the idea I have of the length of certain regular periodic motions. None of these motions ever exists all at once, except in the ideas of them I have in my memory, derived from my senses or reflection. So I can, with the same ease and for the same reason, apply that notion in my thoughts to duration before every kind of motion, just as well as to anything that is only a minute or a day before the motion the sun is in at this very moment.

All past things are equally and completely at rest, and for this way of considering them it makes no difference whether they were before the beginning of the world or only yesterday. Measuring any duration by some motion does not depend at all on that thing really coexisting with that motion, or with any other periods of revolution. It de-

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a clear idea of the length of some periodical known motion, or other intervals of duration in my mind, and applying that to the duration of the thing I would measure.

2.14.29 Hence we see, that some men imagine the duration of the world, from its first existence to this present year 1689, to have been five thousand six hundred and thirty-nine years, or equal to five thousand six hundred and thirty-nine annual revolutions of the sun, and others a great deal more; as the Egyptians of old, who in the time of Alexander counted twenty-three thousand years from the reign of the sun; and the Chinese now, who account the world three millions two hundred and sixty-nine thousand years old or more: which longer duration of the world, according to their computation, though I should not believe it to be true, yet I can equally imagine it with them, and as truly understand, and say one is longer than the other, as I understand that Methusalem's life was longer than Enoch's.

And if the common reckoning of five thousand six hundred and thirty-nine should be true (as it may be as well as any other assigned,) it hinders not at all my imagining what others mean when they make the world one thousand years older, since every one may with the same facility imagine (I do not say believe) the world to be fifty thousand years old, as five thousand six hundred and thirty-nine; and may as well conceive the duration of fifty thousand years as five thousand six hundred and thirty-nine.

Whereby it appears, that to the measuring the duration of any thing by time, it is not requisite that that thing should be coexistent to the motion we measure by, or any other periodical revolution; but it suffices to this purpose, that we have the idea of the length of any regular periodical appearances, which we can in our minds apply to duration, with which the motion or appearance never coexisted.

2.14.30 For as in the history of the creation, delivered by Moses, I can imagine that light existed three days before the sun was, or had any motion, barely by thinking, that the duration of light, before the sun was created, was so long as (if the sun had moved

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pends only on my having in my mind a clear idea of the length of some known periodic motion, or of other intervals of duration, and applying that to the duration of the thing I want to measure.

Hence we see that some people imagine the duration of the world, from its first existence to this present year 1689, to have been five thousand six hundred and thirty-nine years, or equal to five thousand six hundred and thirty-nine annual revolutions of the sun. Others imagine it a great deal longer: for example, the ancient Egyptians, who in the time of Alexander counted twenty-three thousand years from the reign of the sun, and the Chinese today, who reckon the world to be three million two hundred and sixty-nine thousand years old or more. I would not believe that this longer duration of the world, by their computation, is true. Still, I can imagine it just as they do, and I can understand as truly, and say, that the one is longer than the other, as I understand that Methuselah's life was longer than Enoch's.[26]

And suppose the common reckoning of five thousand six hundred and thirty-nine years is true (as it may be, as well as any other that has been proposed). That does not at all prevent me from imagining what others mean when they make the world a thousand years older. For anyone can as easily imagine (I do not say believe) the world to be fifty thousand years old as five thousand six hundred and thirty-nine, and can as well conceive a duration of fifty thousand years as one of five thousand six hundred and thirty-nine.

This shows that to measure the duration of anything by time, that thing does not need to coexist with the motion we measure by, or with any other periodic revolution. It is enough for this purpose that we have the idea of the length of some regular periodic appearances. We can then, in our minds, apply that idea to a duration with which the motion or appearance never coexisted.

Take the history of the creation given by Moses. I can imagine that light existed three days before the sun existed or had any motion, simply by thinking that the duration of light before the sun was created was as long as three of the sun's daily

26 The figure of 5,639 years comes from biblical chronology. In Genesis 5 Methuselah lives 969 years and Enoch 365.

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then, as it doth now) would have been equal to three of his diurnal revolutions; so by the same way I can have an idea of the chaos, or angels being created before there was either light, or any continued motion, a minute, an hour, a day, a year, or one thousand years.

For if I can but consider duration equal to one minute, before either the being or motion of any body, I can add one minute more till I come to sixty; and by the same way of adding minutes, hours, or years, (*i. e.* such or such parts of the sun's revolutions, or any other period whereof I have the idea) proceed in infinitum, and suppose a duration exceeding as many such periods as I can reckon, let me add whilst I will, which I think is the notion we have of eternity, of whose infinity we have no other notion than we have of the infinity of number, to which we can add for ever without end.

2.14.31 And thus I think it is plain, that from those two fountains of all knowledge before mentioned, viz. reflection and sensation, we get ideas of duration, and the measures of it.

For, first, By observing what passes in our minds, how our ideas there in train constantly some vanish, and others begin to appear, we come by the idea of succession.

Secondly, By observing a distance in the parts of this succession, we get the idea of duration.

Thirdly, By sensation observing certain appearances, at certain regular and seeming equidistant periods, we get the ideas of certain lengths or measures of duration, as minutes, hours, days, years, &c.

Fourthly, By being able to repeat those measures of time or ideas of stated length of duration in our minds, as often as we will, we can come to imagine duration, where nothing does really endure or exist; and thus we imagine to-morrow, next year, or seven years hence.

Fifthly, By being able to repeat ideas of any length of time, as of a minute, a year, or an age, as often as we will, in our own thoughts, and adding them one to another, without ever coming to the end of

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revolutions would have been (if the sun had moved then as it does now). In the same way I can have an idea of the chaos, or of angels, being created a minute, an hour, a day, a year, or a thousand years before there was either light or any continuous motion.[27]

For if I can just consider a duration equal to one minute before either the existence or the motion of any body, I can add one minute more until I reach sixty. By the same way of adding minutes, hours, or years (that is, such and such parts of the sun's revolutions, or any other period I have the idea of), I can proceed to infinity. I can suppose a duration exceeding as many such periods as I can count, however long I go on adding. This, I think, is the notion we have of eternity. Of its infinity we have no other notion than we have of the infinity of number, to which we can add forever without end.

And so I think it is plain that we get ideas of duration, and of its measures, from those two fountains of all knowledge mentioned before, namely reflection and sensation.

For, first, by observing what passes in our minds—how, in the train of our ideas there, some constantly vanish and others begin to appear—we come by the idea of succession.

Second, by observing a distance between the parts of this succession, we get the idea of duration.

Third, by observing through sensation certain appearances at certain regular and seemingly equally spaced periods, we get the ideas of certain lengths or measures of duration, such as minutes, hours, days, years, and so on.

Fourth, we can repeat those measures of time, or ideas of a fixed length of duration, in our minds as often as we like. By doing so we can come to imagine duration where nothing really lasts or exists; and in this way we imagine tomorrow, next year, or seven years from now.

Fifth, we can repeat ideas of any length of time, such as a minute, a year, or an age, in our own thoughts as often as we like. We can add them to one another without ever getting any nearer to the

27 In Genesis 1 light is created on the first day and the sun on the fourth. Moses was traditionally held to be the author of Genesis.

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such addition any nearer than we can to the end of number, to which we can always add; we come by the idea of eternity, as the future eternal duration of our souls, as well as the eternity of that infinite Being, which must necessarily have always existed.

Sixthly, By considering any part of infinite duration, as set out by periodical measures, we come by the idea of what we call time in general.

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end of such addition than we can to the end of number, to which we can always add. In this way we come by the idea of eternity: both the future eternal duration of our souls and the eternity of that infinite Being which must necessarily have always existed.

Sixth, by considering any part of infinite duration as marked off by periodic measures, we come by the idea of what we call time in general.

DURATION AND EXPANSION COMPARED

Space and time are both boundless, but duration is like a line and expansion like a solid.

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2.15.1 *Both capable of greater and less.*—Though we have in the precedent chapters dwelt pretty long on the considerations of space and duration; yet they being ideas of general concernment, that have something very abstruse and peculiar in their nature, the comparing them one with another may perhaps be of use for their illustration; and we may have the more clear and distinct conception of them, by taking a view of them together.

Distance or space, in its simple abstract conception, to avoid confusion, I call expansion, to distinguish it from extension, which by some is used to express this distance only as it is in the solid parts of matter, and so includes, or at least intimates, the idea of body: whereas the idea of pure distance includes no such thing. I prefer also the word expansion to space, because space is often applied to distance of fleeting successive parts, which never exist together, as well as to those which are permanent. In both these (viz.

expansion and duration) the mind has this common idea of continued lengths, capable of greater or less quantities: for a man has as clear an idea of the difference of the length of an hour and a day, as of an inch and a foot.

2.15.2 *Expansion not bounded by matter.*—The mind having got the idea of the length of any part of expansion, let it be a span or a pace, or what length you will, can, as has been said, repeat that idea; and so, adding it to the former, enlarge its idea of length, and make it equal to two spans, or two paces, and so as often as it will, till it equals

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Both capable of greater and less.—In the preceding chapters we have dwelt at some length on space and duration. But they are ideas of general importance, with something very abstruse and peculiar in their nature, so comparing them with each other may help to illustrate them. We may get a clearer and more distinct conception of them by looking at them together.

To avoid confusion, I call distance or space, in its simple abstract conception, expansion. This distinguishes it from extension, which some people use to express this distance only as it is in the solid parts of matter, so that it includes, or at least suggests, the idea of body. The idea of pure distance includes nothing of the kind. I also prefer the word expansion to space, because space is often applied to the distance between fleeting successive parts, which never exist together, as well as to the distance between parts that are permanent. In both of these (namely,

expansion and duration) the mind has this common idea of continuous lengths, capable of greater or smaller quantities. A man has as clear an idea of the difference in length between an hour and a day as between an inch and a foot.

Expansion not bounded by matter.—Once the mind has the idea of the length of any part of expansion (a span, a pace, or whatever length you like), it can, as has been said, repeat that idea. By adding it to the first, the mind can enlarge its idea of length and make it equal to two spans or two paces. It can go on doing this as often as it wants,

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the distance of any parts of the earth, one from another, and increase thus, till it amounts to the distance of the sun or remotest star.

By such a progression as this, setting out from the place where it is, or any other place, it can proceed and pass beyond all those lengths, and find nothing to stop its going on, either in, or without body. It is true, we can easily, in our thoughts, come to the end of solid extension; the extremity and bounds of all body we have no difficulty to arrive at: but when the mind is there, it finds nothing to hinder its progress into this endless expansion; of that it can neither find nor conceive any end. Nor let any one say, that beyond the bounds of body there is nothing at all, unless he will confine God within the limits of matter.

Solomon, whose understanding was filled and enlarged with wisdom, seems to have other thoughts, when he says, "heaven, and the heaven of heavens, cannot contain thee:" and he, I think, very much magnifies to himself the capacity of his own understanding, who persuades himself that he can extend his thoughts farther than God exists, or imagine any expansion where he is not.

2.15.3 *Nor duration by motion.*—Just so is it in duration. The mind having got the idea of any length of duration, can double, multiply, and enlarge it, not only beyond its own, but beyond the existence of all corporeal beings, and all the measures of time, taken from the great bodies of the world and their motions. But yet every one easily admits, that though we make duration boundless, as certainly it is, we cannot yet extend it beyond all being. God, every one easily allows, fills eternity, and it is hard to find a reason why any one should doubt that he likewise fills immensity.

His infinite being is certainly as boundless one way as another, and methinks it ascribes a little too much to matter to say where there is no body, there is nothing.

2.15.4 *Why men more easily admit infinite duration than infinite expansion.*—Hence, I think, we may learn the reason why every one familiarly, and without the least hesitation, speaks of, and supposes, eternity, and sticks not to ascribe infinity to

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until the length equals the distance between any parts of the earth, and it can keep increasing it until it reaches the distance of the sun or of the most remote star.

By such a progression, starting from where it is or from any other place, the mind can go on and pass beyond all those lengths, and find nothing to stop it from going on, either within body or outside it. It is true that in our thoughts we can easily come to the end of solid extension; we have no difficulty reaching the extremity and bounds of all body. But when the mind is there, it finds nothing to stop its progress into this endless expansion; of that it can neither find nor conceive any end. And let no one say that beyond the bounds of body there is nothing at all, unless he means to confine God within the limits of matter.

Solomon, whose understanding was filled and enlarged with wisdom, seems to have thought otherwise when he says, “heaven, and the heaven of heavens, cannot contain thee.” And I think a man greatly overrates the capacity of his own understanding if he persuades himself that he can extend his thoughts farther than God exists, or imagine any expansion where God is not.

Nor duration by motion.—It is just the same with duration. Once the mind has the idea of any length of duration, it can double, multiply, and enlarge it. It can take it not only beyond the mind’s own existence but beyond the existence of all bodily beings, and beyond all the measures of time taken from the great bodies of the world and their motions. Yet everyone readily admits that although we make duration boundless, as it certainly is, we still cannot extend it beyond all being. Everyone readily allows that God fills eternity, and it is hard to find a reason why anyone should doubt that he likewise fills immensity.

His infinite being is certainly as boundless in the one way as in the other. It seems to me that saying “where there is no body, there is nothing” gives a little too much to matter.

Why men more easily admit infinite duration than infinite expansion.—From this, I think, we can learn why everyone speaks of eternity familiarly, takes it for granted without the least hesitation, and does not scruple to ascribe infinity to duration,

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duration; but it is with more doubting and reserve that many admit or suppose the infinity of space.

The reason whereof seems to me to be this; that duration and extension being used as names of affections belonging to other beings, we easily conceive in God infinite duration, and we cannot avoid doing so; but not attributing to him extension, but only to matter, which is finite, we are apter to doubt of the existence of expansion without matter, of which alone we commonly suppose it an attribute. And therefore when men pursue their thoughts of space, they are apt to stop at the confines of body, as if space were there at an end too, and reached no farther.

Or if their ideas upon consideration carry them farther, yet they term what is beyond the limits of the universe imaginary space; as if it were nothing, because there is no body existing in it: whereas duration, antecedent to all body, and to the motions which it is measured by, they never term imaginary, because it is never supposed void of some other real existence.

And if the names of things may at all direct our thoughts towards the originals of men's ideas (as I am apt to think they may very much) one may have occasion to think, by the name duration, that the continuation of existence, with a kind of resistance to any destructive force, and the continuation of solidity (which is apt to be confounded with, and, if we look into the minute anatomical parts of matter, is little different from, hardness) were thought to have some analogy, and gave occasion to words so near of kin as *durare* and *durum esse*. And that *durare* is applied to the idea of hardness as well as that of existence, we see in Horace, epod. xvi.

"*ferro duravit secula*." But be that as it will, this is certain, that whoever pursues his own thoughts, will find them sometimes launch out beyond the extent of body into the infinity of space or expansion; the idea whereof is distinct and separate from body and all other things: which may (to those who please) be a subject of farther meditation.

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while many admit or suppose the infinity of space only with more doubt and reserve.

The reason for this seems to me to be as follows. Duration and extension are used as names of properties belonging to other beings. We easily conceive infinite duration in God, and we cannot help doing so. But we attribute extension not to him but only to matter, which is finite, so we are more inclined to doubt that expansion exists without matter, since we commonly suppose it to be an attribute of matter alone. And so when men follow out their thoughts about space, they tend to stop at the borders of body, as if space ended there too and reached no farther.

Or if, on reflection, their ideas carry them farther, they still call what lies beyond the limits of the universe imaginary space, as if it were nothing because no body exists in it. Yet they never call duration imaginary when it comes before all body and before the motions by which it is measured, because it is never supposed to be empty of some other real existence.

The names of things may to some extent guide our thoughts toward the origins of men's ideas, and I am inclined to think they can do so very much. If so, the name duration may give us reason to think that two things were once thought to have some analogy. The first is the continuation of existence, with a kind of resistance to any destructive force. The second is the continuation of solidity, which is easily confused with hardness and, if we look into the minute anatomical parts of matter, differs little from it. This analogy gave rise to words as closely related as *durare* and *durum esse*. That *durare* is applied to the idea of hardness as well as to that of existence we see in Horace, Epode 16:[28]

"*ferro duravit secula*." But however that may be, this much is certain: whoever follows his own thoughts will find them sometimes launch out beyond the extent of body into the infinity of space or expansion. The idea of this is distinct and separate from body and from all other things, and for those who wish, it may be a subject for further meditation.[29]

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28 Latin *durare*, "to last" (also "to harden"); *durum esse*, "to be hard."
29 "He hardened the ages with iron": Horace, *Epodes* 16.65, on Jupiter bringing in the Iron Age.

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Time to duration is as place to expansion.—Time in general is to duration as place to expansion. They are so much of those boundless oceans of eternity and immensity as is set out and distinguished from the rest, as it were, by landmarks; and so are made use of to denote the position of finite real beings, in respect one to another, in those uniform infinite oceans of duration and space. These, rightly considered, are only ideas of determinate distances, from certain known points fixed in distinguishable sensible things, and supposed to keep the same distance one from another.

From such points fixed in sensible beings we reckon, and from them we measure our portions of those infinite quantities; which, so considered, are that which we call time and place. For duration and space being in themselves uniform and boundless, the order and position of things, without such known settled points, would be lost in them, and all things would lie jumbled in an incurable confusion.

2.15.6 *Time and place are taken for so much of either, as are set out by the existence and motion of bodies.*—Time and place, taken thus for determinate distinguishable portions of those infinite abysses of space and duration, set out or supposed to be distinguished from the rest by marks and known boundaries, have each of them a twofold acceptation.

First, Time in general is commonly taken for so much of infinite duration as is measured by, and coexistent with, the existence and motions of the great bodies of the universe, as far as we know any thing of them: and in this sense time begins and ends with the frame of this sensible world, as in these phrases before mentioned, before all time, or when time shall be no more. Place likewise is taken sometimes for that portion of infinite space which is possessed by, and comprehended within, the material world, and is thereby distinguished from the rest of expansion; though this may more properly be called extension than place.

Within these two are confined, and by the observable parts of them are measured and determined, the particular time or duration, and

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Time to duration is as place to expansion.—Time in general is to duration as place is to expansion. They are the portions of those boundless oceans of eternity and immensity that are marked out and distinguished from the rest, as if by landmarks. So they are used to indicate the position of finite real beings in relation to one another within those uniform infinite oceans of duration and space. Rightly considered, they are only ideas of definite distances from certain known points. These points are fixed in distinguishable sensible things, which are supposed to keep the same distance from one another.

We reckon from such points fixed in sensible beings, and from them we measure our portions of those infinite quantities. These portions, so considered, are what we call time and place. For duration and space are in themselves uniform and boundless. Without such known, settled points, the order and position of things would be lost in them, and everything would lie jumbled together in hopeless confusion.

Time and place are taken for as much of either as is marked out by the existence and motion of bodies.—Time and place can be taken in this way, for definite, distinguishable portions of those infinite abysses of space and duration, marked off from the rest (or supposed to be) by marks and known boundaries. Taken so, each of them has a twofold meaning.

First, time in general is commonly taken for as much of infinite duration as is measured by, and coexists with, the existence and motions of the great bodies of the universe, so far as we know anything about them. In this sense time begins and ends with the structure of this sensible world, as in the phrases mentioned before, “before all time” or “when time shall be no more.” Likewise place is sometimes taken for that portion of infinite space which is occupied and enclosed by the material world, and is thereby distinguished from the rest of expansion. This, though, might more properly be called extension than place.

The particular time or duration, and the particular extension and place, of all bodily beings are confined within these two, and are measured and determined by their observable parts.

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the particular extension and place of all corporeal beings.

2.15.7 *Sometimes for so much of either, as we design by measures taken from the bulk or motion of bodies.*—Secondly, Sometimes the word time is used in a larger sense, and is applied to parts of that infinite duration, not that were really distinguished and measured out by this real existence, and periodical motions of bodies that were appointed from the beginning to be for signs, and for seasons, and for days, and years, and are accordingly our measure of time;—but such other portions too of that infinite uniform duration, which we, upon any occasion, do suppose equal to certain lengths of measured time; and so consider them as bounded and determined.

For if we should suppose the creation or fall of the angels was at the beginning of the Julian period, we should speak properly enough, and should be understood, if we said, it is a longer time since the creation of angels than the creation of the world by seven thousand six hundred and forty years; whereby we would mark out so much of that undistinguished duration as we suppose equal to, and would have admitted, seven thousand six hundred and forty annual revolutions of the sun, moving at the rate it now does.

And thus likewise we sometimes speak of place, distance, or bulk, in the great inane beyond the confines of the world, when we consider so much of that space as is equal to, or capable to receive a body of any assigned dimensions, as a cubic foot; or do suppose a point in it at such a certain distance from any part of the universe.

2.15.8 *They belong to all beings.*—Where and when are questions belonging to all finite existences, and are by us always reckoned from some known parts of this sensible world, and from some certain epochs marked out to us by the motions observable in it. Without some such fixed parts or periods, the order of things would be lost to our finite understandings, in the boundless invariable oceans of duration and expansion which comprehend in them all finite beings, and in their full extent belong only to the Deity.

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Sometimes for as much of either as we designate by measures taken from the bulk or motion of bodies.—Second, the word time is sometimes used in a broader sense. It is applied to those parts of infinite duration that were really distinguished and measured out by the real existence and periodic motions of bodies, which were appointed from the beginning to be for signs, and for seasons, and for days, and years, and are accordingly our measure of time. But it is applied also to other portions of that infinite uniform duration which, on any occasion, we suppose equal to certain lengths of measured time, and so consider as bounded and determined.[30]

Suppose, for instance, that the creation or fall of the angels took place at the beginning of the Julian period. We would then speak properly enough, and be understood, if we said that more time has passed since the creation of the angels than since the creation of the world, by seven thousand six hundred and forty years. By this we would mark out as much of that undifferentiated duration as we suppose equal to, and as would have allowed, seven thousand six hundred and forty annual revolutions of the sun, moving at the rate it now does.

In the same way we sometimes speak of place, distance, or bulk in the great void beyond the borders of the world. We do so when we consider as much of that space as is equal to, or capable of receiving, a body of some given dimensions, such as a cubic foot, or when we suppose a point in it at some particular distance from some part of the universe.

They belong to all beings.—Where and when are questions that belong to all finite existences. We always reckon them from some known parts of this sensible world, and from certain epochs marked out for us by the motions observable in it. Without some such fixed parts or periods, the order of things would be lost to our finite understandings in the boundless, unvarying oceans of duration and expansion. These oceans contain within them all finite beings, and in their full extent they belong only to the Deity.

30 The phrase echoes Genesis 1:14.

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And therefore we are not to wonder that we comprehend them not, and do so often find our thoughts at a loss, when we would consider them either abstractly in themselves, or as any way attributed to the first incomprehensible being. But when applied to any particular finite beings, the extension of any body is so much of that infinite space as the bulk of the body takes up; and place is the position of any body, when considered at a certain distance from some other.

As the idea of the particular duration of any thing is an idea of that portion of infinite duration which passed during the existence of that thing; so the time when the thing existed, is the idea of that space of duration which passed between some known and fixed period of duration, and the being of that thing.

One shows the distance of the extremities of the bulk or existence of the same thing, as that it is a foot square, or lasted two years; the other shows the distance of it in place or existence from other fixed points of space or duration, as that it was in the middle of Lincoln's-inn-fields, or the first degree of Taurus, and in the year of our Lord 1671, or the 1000th year of the Julian period: all which distances we measure by preconceived ideas of certain lengths of space and duration, as inches, feet, miles, and degrees; and in the other, minutes, days, and years.

2.15.9 *All the parts of extension are extension; and all the parts of duration are duration.*—There is one thing more wherein space and duration have a great conformity: and that is, though they are justly reckoned among our simple ideas, yet none of the distinct ideas we have of either is without all manner of composition; it is the very nature of both of them to consist of parts: but their parts being all of the same kind, and without the mixture of any other idea, hinder them not from having a place among simple ideas.

Could the mind, as in number, come to so small a part of extension or duration as excluded divisibility, that would be, as it were, the indivisible unit or idea; by repetition of which it

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So we should not be surprised that we do not comprehend them, or that our thoughts are so often at a loss when we try to consider them, either abstractly in themselves or as in any way attributed to the first, incomprehensible being. But when they are applied to particular finite beings, the extension of any body is as much of that infinite space as the bulk of the body takes up, and place is the position of any body considered as at a certain distance from some other body.

The idea of the particular duration of anything is an idea of that portion of infinite duration which passed during the existence of that thing. In the same way, the time when the thing existed is the idea of the stretch of duration that passed between some known, fixed period of duration and the existence of that thing.

The one shows the distance between the extremities of the bulk or existence of the same thing: for example, that it is a foot square, or lasted two years. The other shows its distance in place or existence from other fixed points of space or duration: for example, that it was in the middle of Lincoln's Inn Fields, or in the first degree of Taurus, and in the year of our Lord 1671, or the 1000th year of the Julian period. We measure all these distances by preconceived ideas of certain lengths of space and duration. In the one case these are inches, feet, miles, and degrees; in the other, minutes, days, and years.[31]

All the parts of extension are extension; and all the parts of duration are duration.—There is one more respect in which space and duration closely resemble each other. They are rightly counted among our simple ideas, and yet none of the distinct ideas we have of either is entirely without composition, because it is the very nature of both to consist of parts. But their parts are all of the same kind, with no admixture of any other idea, so this does not keep them from having a place among simple ideas.

Suppose the mind could reach, as it does in number, a part of extension or duration so small that it ruled out divisibility. That would be, as it were, the indivisible unit or idea, and by repeating it the

31 Lincoln's Inn Fields is a large square in London. "The first degree of Taurus" is a position on the zodiac used in astronomical reckoning.

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would make its more enlarged ideas of extension and duration.

But since the mind is not able to frame an idea of any space without parts, instead thereof it makes use of the common measures, which, by familiar use, in each country, have imprinted themselves on the memory, (as inches and feet, or cubits and parasangs; and so seconds, minutes, hours, days, and years in duration:) the mind makes use, I say, of such ideas as these, as simple ones; and these are the component parts of larger ideas, which the mind, upon occasion, makes by the addition of such known lengths, which it is acquainted with.

On the other side, the ordinary smallest measure we have of either is looked on as an unit in number, when the mind by division would reduce them into less fractions. Though on both sides, both in addition and division, either of space or duration, when the idea under consideration becomes very big or very small, its precise bulk becomes very obscure and confused; and it is the number of its repeated additions or divisions that alone remains clear and distinct, as will easily appear to any one who will let his thoughts loose in the vast expansion of space, or divisibility of matter.

Every part of duration is duration too; and every part of extension is extension, both of them capable of addition or division in infinitum. But the least portions of either of them, whereof we have clear and distinct ideas, may perhaps be fittest to be considered by us as the simple ideas of that kind, out of which our complex modes of space, extension, and duration, are made up, and into which they can again be distinctly resolved. Such a small part in duration may be called a moment, and is the time of one idea in our minds in the train of their ordinary succession there.

The other wanting a proper name, I know not whether I may be allowed to call a sensible point, meaning thereby the least particle of matter or space we can discern, which is ordinarily about a minute, and to the sharpest eyes seldom less than thirty seconds of a circle, whereof the eye is the centre.

2.15.10 *Their parts inseparable.*—Expansion and duration have this farther agreement, that though they are both considered by us as having parts, yet their

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mind would make its larger ideas of extension and duration.

But the mind cannot frame an idea of any space without parts. Instead, it uses the common measures which, through familiar use in each country, have imprinted themselves on the memory: inches and feet, or cubits and parasangs, and likewise seconds, minutes, hours, days, and years in duration. The mind uses such ideas as these, I say, as simple ones. They are the component parts of larger ideas, which the mind makes when needed by adding together such known lengths as it is acquainted with.

On the other hand, when the mind would divide them into smaller fractions, it treats the smallest ordinary measure we have of either as a unit in number. Yet on both sides, in addition and in division, of space or of duration, something happens when the idea under consideration becomes very large or very small. Its precise size becomes very obscure and confused, and only the number of its repeated additions or divisions remains clear and distinct. Anyone who lets his thoughts loose in the vast expansion of space or in the divisibility of matter will easily see this.

Every part of duration is duration too, and every part of extension is extension, and both are capable of addition or division to infinity. But the smallest portions of either of which we have clear and distinct ideas may perhaps be the fittest for us to consider as the simple ideas of that kind. Our complex modes of space, extension, and duration are made up of them, and can again be distinctly resolved into them. Such a small part of duration may be called a moment. It is the time taken by one idea in our minds, in the train of their ordinary succession there.

The other has no proper name. I do not know whether I may be allowed to call it a sensible point, meaning by this the smallest particle of matter or space we can discern. Ordinarily this is about one minute of a circle with the eye at its center, and for the sharpest eyes seldom less than thirty seconds.

Their parts inseparable.—Expansion and duration agree in this further respect. We consider both of them as having parts, yet their parts cannot be

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parts are not separable one from another, no, not even in thought; though the parts of bodies from whence we take our measure of the one, and the parts of motion, or rather the succession of ideas in our minds, from whence we take the measure of the other, may be interrupted and separated; as the one is often by rest, and the other is by sleep, which we call rest too.

2.15.11 *Duration is as a line, expansion as a solid.*—But there is this manifest difference between them; that the ideas of length, which we have of expansion, are turned every way, and so make figure, and breadth, and thickness; but duration is but as it were the length of one straight line extended *in infinitum*, not capable of multiplicity, variation, or figure; but is one common measure of all existence whatsoever, wherein all things, whilst they exist, equally partake. For this present moment is common to all things that are now in being, and equally comprehends that part of their existence, as much as if they were all but one single being; and we may truly say, they all exist in the same moment of time.

Whether angels and spirits have any analogy to this, in respect of expansion, is beyond my comprehension; and, perhaps, for us, who have understandings and comprehensions suited to our own preservation, and the ends of our own being, but not to the reality and extent of all other beings; it is near as hard to conceive any existence, or to have an idea of any real being, with a perfect negation of all manner of expansion, as it is to have the idea of any real existence with the perfect negation of all manner of duration; and therefore what spirits have to do with space, or how they communicate in it, we know not.

All that we know is, that bodies do each singly possess its proper portion of it, according to the extent of solid parts; and thereby exclude all other bodies from having any share in that particular portion of space, whilst it remains there.

2.15.12 *Duration has never two parts together, expansion all together.*—Duration, and time, which is a part of it, is the idea we have of perishing distance, of which no two parts exist together, but follow each other in succession; as expansion is the idea of lasting

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separated from one another, not even in thought. This is so even though the things from which we take our measures can be interrupted and separated. We measure the one by the parts of bodies, and these are often interrupted by rest. We measure the other by the parts of motion, or rather by the succession of ideas in our minds, and this is interrupted by sleep, which we also call rest.

Duration is like a line, expansion like a solid.—But there is this obvious difference between them. The ideas of length we have of expansion are turned in every direction, and so make figure, breadth, and thickness. Duration, by contrast, is only, as it were, the length of one straight line extended to infinity, not capable of multiplicity, variation, or figure. It is one common measure of all existence whatever, in which all things share equally while they exist. For this present moment is common to all things now in existence, and it takes in that part of their existence equally, just as if they were all one single being. We may truly say that they all exist in the same moment of time.

Whether angels and spirits have anything analogous to this with respect to expansion is beyond my comprehension. Our understandings and comprehension are suited to our own preservation and the purposes of our own being, but not to the reality and extent of all other beings. So perhaps, for us, it is nearly as hard to conceive any existence, or to have an idea of any real being, with a complete negation of every kind of expansion, as it is to have the idea of any real existence with a complete negation of every kind of duration. And so we do not know what spirits have to do with space, or how they share in it.

All we know is that each body individually occupies its own portion of space, according to the extent of its solid parts. It thereby excludes all other bodies from having any share in that particular portion of space while it remains there.

Duration never has two parts together; expansion has all together.—Duration, and time, which is a part of it, is the idea we have of perishing distance. No two parts of it exist together; they follow each other in succession. Expansion, by contrast, is the

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distance, all whose parts exist together, and are not capable of succession.

And therefore, though we cannot conceive any duration without succession, nor can put it together in our thoughts, that any being does now exist to-morrow, or possess at once more than the present moment of duration; yet we can conceive the eternal duration of the Almighty far different from that of man, or any other finite being; because man comprehends not in his knowledge, or power, all past and future things; his thoughts are but of yesterday, and he knows not what to-morrow will bring forth. What is once passed he can never recall, and what is yet to come he cannot make present.

What I say of man I say of all finite beings; who, though they may far exceed man in knowledge and power, yet are no more than the meanest creature, in comparison with God himself. Finite of any magnitude holds not any portion to infinite. God's infinite duration being accompanied with infinite knowledge and infinite power, he sees all things past and to come; and they are no more distant from his knowledge, no farther removed from his sight, than the present: they all lie under the same view; and there is nothing which he cannot make exist each moment he pleases.

For the existence of all things depending upon his good pleasure, all things exist every moment that he thinks fit to have them exist. To conclude, expansion and duration do mutually embrace and comprehend each other; every part of space being in every part of duration, and every part of duration in every part of expansion. Such a combination of two distinct ideas is, I suppose, scarce to be found in all that great variety we do or can conceive, and may afford matter to farther speculation.

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idea of lasting distance: all its parts exist together and are not capable of succession.

So we cannot conceive any duration without succession. Nor can we put it together in our thoughts that any being exists now tomorrow, or possesses more than the present moment of duration at once. Even so, we can conceive the eternal duration of the Almighty as very different from that of man or any other finite being. For man does not take in all past and future things in his knowledge or power. His thoughts are but of yesterday, and he does not know what tomorrow will bring forth. What has once passed he can never recall, and what is still to come he cannot make present.

What I say of man I say of all finite beings. They may far exceed man in knowledge and power, and yet in comparison with God himself they are no more than the lowest creature. The finite, of whatever magnitude, bears no proportion to the infinite. God's infinite duration is accompanied by infinite knowledge and infinite power, so he sees all things past and to come. They are no more distant from his knowledge, and no farther removed from his sight, than the present. They all lie within the same view, and there is nothing he cannot make exist at any moment he pleases.

For the existence of all things depends on his good pleasure, so all things exist every moment that he thinks fit to have them exist. To conclude: expansion and duration mutually embrace and contain each other, every part of space being in every part of duration, and every part of duration in every part of expansion. I think such a combination of two distinct ideas is hardly to be found anywhere else in all the great variety of things we do or can conceive, and it may provide material for further speculation.

NUMBER

Number, made by adding units, is the most universal idea, and counting depends on having names.

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2.16.1 *Number the simplest and most universal idea.—* Among all the ideas we have, as there is none suggested to the mind by more ways, so there is none more simple than that of unity, or one. It has no shadow of variety or composition in it: every

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Number the simplest and most universal idea.— Among all the ideas we have, none is suggested to the mind in more ways than that of unity, or one, and none is simpler. It has no shadow of variety or composition in it. Every object our senses deal

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object our senses are employed about, every idea in our understandings, every thought of our minds, bring this idea along with it; and therefore it is the most intimate to our thoughts, as well as it is, in its agreement to all other things, the most universal idea we have. For number applies itself to men, angels, actions, thoughts, every thing that either doth exist or can be imagined.

2.16.2 *Its modes made by addition.*—By repeating this idea in our minds, and adding the repetitions together, we come by the complex ideas of the modes of it. Thus by adding one to one, we have the complex idea of a couple; by putting twelve units together, we have the complex idea of a dozen; and so of a score, or a million, or any other number.

2.16.3 *Each mode distinct.*—The simple modes of numbers are of all other the most distinct; every the least variation, which is an unit, making each combination as clearly different from that which approacheth nearest to it, as the most remote: two being as distinct from one as two hundred; and the idea of two as distinct from the idea of three as the magnitude of the whole earth is from that of a mite. This is not so in other simple modes, in which it is not so easy, nor perhaps possible, for us to distinguish betwixt two approaching ideas, which yet are really different.

For who will undertake to find a difference between the white of this paper, and that of the next degree to it; or can form distinct ideas of every the least excess in extension.

2.16.4 *Therefore demonstration in numbers the most precise.*—The clearness and distinctness of each mode of number from all others, even those that approach nearest, makes me apt to think that demonstrations in numbers, if they are not more evident and exact than in extension, yet they are more general in their use, and more determinate in their application; because the ideas of numbers are more precise and distinguishable than in extension, where every equality and excess are not so easy to be observed or measured; because our thoughts cannot in space arrive at any determined smallness, beyond which it cannot go, as an unit; and therefore the quantity or proportion of any the least excess cannot be discovered: which is clear otherwise in number, where, as has been said, ninety-one is as

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with, every idea in our understandings, every thought of our minds brings this idea along with it. So it is the most intimate to our thoughts, and also, in its agreement with all other things, the most universal idea we have. For number applies to men, angels, actions, thoughts, and everything that either exists or can be imagined.

Its modes made by addition.—By repeating this idea in our minds and adding the repetitions together, we come by the complex ideas of its modes. Thus by adding one to one we have the complex idea of a couple, and by putting twelve units together we have the complex idea of a dozen. It is the same with a score, or a million, or any other number.

Each mode distinct.—The simple modes of number are the most distinct of all. The slightest variation, which is a unit, makes each combination as clearly different from the one nearest to it as from the most remote. Two is as distinct from one as two hundred is, and the idea of two is as distinct from the idea of three as the size of the whole earth is from that of a mite. This is not so in other simple modes. There it is not so easy, and perhaps not possible, for us to distinguish between two neighboring ideas, even though they are really different.

For who will undertake to find a difference between the white of this paper and the shade of white next to it? Or who can form distinct ideas of every slightest excess in extension?

Therefore demonstration in numbers the most precise.—Each mode of number is clear and distinct from all others, even those nearest to it. This inclines me to think that demonstrations in numbers, if they are not more evident and exact than those in extension, are at least more general in their use and more determinate in their application. For the ideas of numbers are more precise and distinguishable than those in extension. In extension not every equality and excess is so easy to observe or measure, because in space our thoughts cannot arrive at a definite smallness, like a unit, beyond which they cannot go. So the quantity or proportion of the slightest excess cannot be discovered. It is clearly otherwise in number, where, as has been said, ninety-one is as distinguishable from ninety

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distinguishable from ninety as from nine thousand, though ninety-one be the next immediate excess to ninety.

But it is not so in extension, where whatsoever is more than just a foot or an inch, is not distinguishable from the standard of a foot or an inch: and in lines which appear of an equal length, one may be longer than the other by innumerable parts; nor can any one assign an angle which shall be the next biggest to a right one.

2.16.5 *Names necessary to numbers.*—By the repeating, as has been said, the idea of an unit, and joining it to another unit, we make thereof one collective idea, marked by the name two. And whosoever can do this, and proceed on still, adding one more to the collective idea which he had of any number, and give a name to it, may count or have ideas for several collections of units, distinguished one from another, as far as he hath a series of names for following numbers, and a memory to retain that series, with their several names; all numeration being but still the adding of one unit to more, and giving to the whole together, as comprehended in one idea, a new or distinct name or sign, whereby to know it from those before and after, and distinguish it from every smaller or greater multitude of units.

So that he can add one to one, and so to two, and so go on with his tale, taking still with him the distinct names belonging to every progression; and so again, by subtracting an unit from each collection, retreat and lessen them; is capable of all the ideas of numbers within the compass of his language, or for which he hath names, though not perhaps of more. For the several simple modes of numbers, being in our minds but so many combinations of units, which have no variety, nor are capable of any other difference but more or less, names or marks for each distinct combination seem more necessary than in any other sort of ideas.

For without such names or marks we can hardly well make use of numbers in reckoning, especially where the combination is made up of any great multitude of units; which put together without a name or mark, to distinguish that precise collection, will hardly be kept from being a heap in confusion.

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as from nine thousand, even though ninety-one is the very next step above ninety.

But it is not so in extension. There anything just over a foot or an inch cannot be distinguished from the standard foot or inch. Of two lines that appear equal in length, one may be longer than the other by innumerable parts. Nor can anyone name an angle that is the next largest after a right angle.

Names necessary to numbers.—By repeating the idea of a unit, as has been said, and joining it to another unit, we make of them one collective idea, marked by the name two. Whoever can do this can keep going, adding one more to the collective idea he had of any number and giving it a name. He can then count, or have ideas of different collections of units distinguished from one another, as far as he has a series of names for the succeeding numbers and a memory to retain that series with its various names. For all counting is simply adding one more unit to more. We then give the whole, taken together as one idea, a new or distinct name or sign, by which to know it from those before and after it and to distinguish it from every smaller or larger multitude of units.

So a man may add one to one, and then to two, and go on with his count, always taking with him the distinct names belonging to each step. He may also go back again and make the collections smaller, by subtracting a unit from each. Such a man is capable of all the ideas of numbers within the range of his language, or for which he has names, though perhaps not of more. For the various simple modes of number are in our minds only so many combinations of units. These have no variety and are capable of no other difference than more or less. So names or marks for each distinct combination seem more necessary here than for any other sort of ideas.

Without such names or marks we can hardly make good use of numbers in reckoning, especially where the combination is made up of a large multitude of units. If they are put together without a name or mark to distinguish that precise collection, they can hardly be kept from becoming a confused heap.

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2.16.6 This I think to be the reason why some Americans I have spoken with, (who were otherwise of quick and rational parts enough,) could not, as we do, by any means count to one thousand, nor had any distinct idea of that number, though they could reckon very well to twenty; because their language being scanty, and accommodated only to the few necessaries of a needy simple life, unacquainted either with trade or mathematics, had no words in it to stand for one thousand; so that when they were discoursed with of those great numbers, they would show the hairs of their head to express a great multitude which they could not number; which inability, I suppose, proceeded from their want of names.

The Tououpinambos had no names for numbers above five; any number beyond that they made out by showing their fingers, and the fingers of others who were present[1]. And I doubt not but we ourselves might distinctly number in words a great deal farther than we usually do, would we find out but some fit denomination to signify them by; whereas in the way we take now to name them by millions of millions of millions, &c. it is hard to go beyond eighteen, or at most four and twenty decimal progressions, without confusion.

But to show how much distinct names conduce to our well reckoning, or having useful ideas of numbers, let us set all these following figures in one continued line, as the marks of one number: *v. g.*

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Nonillions. 857324
Octillions. 162486
Septillions. 345896
Sextillions. 437918
Quintillions. 423147
Quatrillions. 248106
Trillions. 235421
Billions. 261734
Millions. 368149
Units. 623137

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This, I think, is the reason why some Native Americans I have spoken with could not by any means count to a thousand as we do, nor had any distinct idea of that number, though they could count very well to twenty. They were otherwise quick and rational enough. But their language was sparse, adapted only to the few necessities of a simple life of scarcity, with no acquaintance with trade or mathematics, and it had no word for a thousand. So when people talked with them about those large numbers, they would point to the hairs of their head to express a great multitude they could not count. This inability, I suppose, came from their lack of names.

The Tupinambá had no names for numbers above five; any number beyond that they made up by showing their fingers and the fingers of others who were present[1]. And I have no doubt that we ourselves could count distinctly in words a great deal farther than we usually do, if only we would find some suitable names to signify the numbers by. As things are, we name them by millions of millions of millions and so on, and in that way it is hard to go beyond eighteen, or at most twenty-four, decimal places without confusion.

But to show how much distinct names help us to reckon well, or to have useful ideas of numbers, let us set all the following figures in one continuous line, as the marks of a single number. For example:

Nonillions. 857324
Octillions. 162486
Septillions. 345896
Sextillions. 437918
Quintillions. 423147
Quatrillions. 248106
Trillions. 235421
Billions. 261734
Millions. 368149
Units. 623137[33]

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[1] Histoire d'un voyage, fait en la terre du Brasil, par Jean de Lery, c. 20. 307/382

[1] Jean de Léry, *Histoire d'un voyage fait en la terre du Brésil* (*History of a Voyage to the Land of Brazil*), ch. 20. 307/382

33 Locke uses the old "long scale," in which each new name marks a further six digits, so that a billion is a million millions.

The ordinary way of naming this number in English will be the often repeating of millions, of millions, of millions, of millions, of millions, of millions, of millions, of millions (which is the denomination of the second six figures.) In which way it will be very hard to have any distinguishing notions of this number; but whether, by giving every six figures a new and orderly denomination, these, and perhaps a great many more figures in progression, might not easily be counted distinctly, and ideas of them both got more easily to ourselves, and more plainly signified to others, I leave it to be considered.

This I mention only to show how necessary distinct names are to numbering, without pretending to introduce new ones of my invention.

2.16.7 *Why children number not earlier.*—Thus children, either for want of names to mark the several progressions of numbers, or not having yet the faculty to collect scattered ideas into complex ones, and range them in a regular order, and so retain them in their memories, as is necessary to reckoning; do not begin to number very early, nor proceed in it very far or steadily, till a good while after they are well furnished with good store of other ideas; and one may often observe them discourse and reason pretty well, and have very clear conceptions of several other things, before they can tell twenty.

And some, through the default of their memories, who cannot retain the several combinations of numbers, with their names annexed in their distinct orders, and the dependence of so long a train of numeral progressions, and their relation one to another, are not able all their lifetime to reckon or regularly go over any moderate series of numbers. For he that will count twenty, or have any idea of that number, must know that nineteen went before, with the distinct name or sign of every one of them, as they stand marked in their order; for wherever this fails, a gap is made, the chain breaks, and the progress in numbering can go no farther. So that to reckon right, it is required, 1.

That the mind distinguish carefully two ideas, which are different one from another only by the

The ordinary way of naming this number in English would be to repeat over and over "millions, of millions, of millions, of millions, of millions, of millions, of millions, of millions" (millions being the name for the second group of six figures). In this way it will be very hard to have any distinguishing notion of this number. Suppose instead we gave every group of six figures a new and orderly name. Then these figures, and perhaps a great many more in sequence, might easily be counted distinctly, and we might both get ideas of them more easily for ourselves and convey them more plainly to others. Whether this is so, I leave to be considered.

I mention this only to show how necessary distinct names are to counting, without pretending to introduce new ones of my own invention.

Why children do not count earlier.—So children do not begin to count very early, nor go very far or steadily in it, until a good while after they are well stocked with plenty of other ideas. This is either because they lack names to mark the successive steps of numbers, or because they do not yet have the faculty of collecting scattered ideas into complex ones, arranging them in a regular order, and keeping them in memory, as counting requires. One can often see them talk and reason fairly well, and have very clear conceptions of various other things, before they can count to twenty.

And some people, through a weakness of memory, cannot retain the various combinations of numbers with their names attached in their distinct order, or the dependence of so long a train of numerical steps and their relation to one another. These people are not able, their whole life long, to count or regularly go through any moderate series of numbers. For anyone who wants to count to twenty, or to have any idea of that number, must know that nineteen came before it, with the distinct name or sign of every one of them as they stand marked in their order. Wherever this fails, a gap is made, the chain breaks, and progress in counting can go no further. So to count correctly, it is required, 1.

That the mind carefully distinguish two ideas that differ from one another only by the addition or

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addition or subtraction of one unit. 2. That it retain in memory the names or marks of the several combinations, from an unit to that number; and that not confusedly, and at random, but in that exact order that the numbers follow one another; in either of which, if it trips, the whole business of numbering will be disturbed, and there will remain only the confused idea of multitude, but the ideas necessary to distinct numeration will not be attained to.

2.16.8 *Number measures all measurables.*—This farther is observable in number, that it is that which the mind makes use of in measuring all things that by us are measurable, which principally are expansion and duration; and our idea of infinity, even when applied to those, seems to be nothing but the infinity of number. For what else are our ideas of eternity and immensity, but the repeated additions of certain ideas of imagined parts of duration and expansion, with the infinity of number, in which we can come to no end of addition? For such an inexhaustible stock, number (of all other our ideas) most clearly furnishes us with, as is obvious to every one.

For let a man collect into one sum as great a number as he pleases, this multitude, how great soever, lessens not one jot the power of adding to it, or brings him any nearer the end of the inexhaustible stock of number, where still there remains as much to be added as if none were taken out. And this endless addition or addibility (if any one like the word better) of numbers, so apparent to the mind, is that, I think, which gives us the clearest and most distinct idea of infinity: of which more in the following chapter.

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subtraction of one unit. 2. That it retain in memory the names or marks of the various combinations, from one unit up to that number—and not confusedly and at random, but in the exact order in which the numbers follow one another. If it trips in either of these, the whole business of counting will be disturbed. Only the confused idea of multitude will remain, and the ideas necessary to distinct numbering will not be reached.

Number measures everything measurable.—A further thing to observe about number is that it is what the mind uses in measuring all the things we can measure, which are chiefly expansion and duration. And our idea of infinity, even when applied to these, seems to be nothing but the infinity of number. For what else are our ideas of eternity and immensity but repeated additions of certain ideas of imagined parts of duration and expansion, together with the infinity of number, in which we can never come to an end of adding? Of all our ideas, number most clearly supplies us with such an inexhaustible stock, as is obvious to everyone.

Let a man gather into one sum as great a number as he likes. This multitude, however great, does not lessen one bit the power of adding to it, or bring him any nearer the end of the inexhaustible stock of number, where there still remains as much to be added as if none had been taken out. And this endless addition or addibility (if anyone prefers the word) of numbers, so evident to the mind, is what I think gives us the clearest and most distinct idea of infinity—of which more in the following chapter.

INFINITY

The idea of infinity comes from our endless power of adding to space, duration and number.

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2.17.1 *Infinity, in its original intention, attributed to space, duration, and number.*—He that would know what kind of idea it is to which we give the name of infinity, cannot do it better than by considering to what infinity is by the mind more immediately attributed, and then how the mind comes to frame it.

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Infinity, in its original meaning, is attributed to space, duration, and number.—Anyone who wants to know what kind of idea it is to which we give the name infinity cannot do better than to consider what the mind most directly attributes infinity to, and then how the mind comes to form it.

Finite and infinite seem to me to be looked upon by the mind as the modes of quantity, and to be attributed primarily in their first designation only to those things which have parts, and are capable of increase or diminution, by the addition or subtraction of any the least part; and such are the ideas of space, duration, and number, which we have considered in the foregoing chapters.

It is true, that we cannot but be assured, that the great God, of whom and from whom are all things, is incomprehensibly infinite: but yet, when we apply to that first and supreme Being, our idea of infinite, in our weak and narrow thoughts, we do it primarily in respect of his duration and ubiquity; and, I think, more figuratively to his power, wisdom, and goodness, and other attributes, which are properly inexhaustible and incomprehensible, &c.

For, when we call them infinite, we have no other idea of this infinity, but what carries with it some reflection on, and intimation of, that number or extent of the acts or objects of God's power, wisdom, and goodness, which can never be supposed so great or so many, which these attributes will not always surmount and exceed, let us multiply them in our thoughts as far as we can; with all the infinity of endless number. I do not pretend to say how these attributes are in God, who is infinitely beyond the reach of our narrow capacities.

They do, without doubt, contain in them all possible perfection: but this, I say, is our way of conceiving them, and these our ideas of their infinity.

2.17.2 *The idea of finite easily found.*—Finite, then, and infinite, being by the mind looked on as modifications of expansion and duration, the next thing to be considered is, how the mind comes by them. As for the idea of finite, there is no great difficulty. The obvious portions of extension, that affect our senses, carry with them into the mind the idea of finite; and the ordinary periods of succession, whereby we measure time and duration, as hours, days, and years, are bounded lengths. The difficulty is, how we come by those boundless ideas of eternity and immensity, since the objects we converse with come so much short of any approach or proportion to that largeness.

Finite and infinite seem to me to be regarded by the mind as modes of quantity, and in their first meaning to be attributed primarily only to things that have parts and can be increased or diminished by adding or subtracting even the smallest part. Such are the ideas of space, duration, and number, which we considered in the preceding chapters.

It is true that we cannot help being assured that the great God, of whom and from whom are all things, is incomprehensibly infinite. But when, in our weak and narrow thoughts, we apply our idea of infinite to that first and supreme Being, we do so primarily with respect to his duration and his being everywhere; and, I think, more figuratively to his power, wisdom, goodness, and other attributes, which are properly inexhaustible and incomprehensible, and so on.

For when we call these infinite, the only idea we have of this infinity is one that carries with it some reflection on, and hint of, the number or extent of the acts or objects of God’s power, wisdom, and goodness. These can never be supposed so great or so many that his attributes will not always surpass and exceed them, however far we multiply them in our thoughts, with all the infinity of endless number. I do not claim to say how these attributes are in God, who is infinitely beyond the reach of our narrow capacities.

They undoubtedly contain in them every possible perfection. But this, I say, is our way of conceiving them, and these are our ideas of their infinity.

The idea of finite is easily found.—Since the mind, then, regards finite and infinite as modifications of expansion and duration, the next thing to consider is how the mind comes by them. As for the idea of finite, there is no great difficulty. The obvious portions of extension that affect our senses bring the idea of finite into the mind with them; and the ordinary periods of succession by which we measure time and duration, such as hours, days, and years, are bounded lengths. The difficulty is how we come by those boundless ideas of eternity and immensity, since the objects we deal with fall so far short of any approach or proportion to that vastness.

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2.17.3 *How we come by the idea of infinity.*—Every one that has any idea of any stated lengths of space, as a foot, finds that he can repeat that idea; and, joining it to the former, make the idea of two feet; and by the addition of a third, three feet; and so on, without ever coming to an end of his addition, whether of the same idea of a foot, or if he pleases of doubling it, or any other idea he has of any length, as a mile, or diameter of the earth, or of the *orbis magnus;* for whichsoever of these he takes, and how often soever he doubles, or any otherwise multiplies it, he finds that after he has continued this doubling in his thoughts, and enlarged his idea as much as he pleases, he has no more reason to stop, nor is one jot nearer the end of such addition, than he was at first setting out.

The power of enlarging his idea of space by farther additions, remaining still the same, he hence takes the idea of infinite space.

2.17.4 *Our idea of space boundless.*—This, I think, is the way whereby the mind gets the idea of infinite space. It is a quite different consideration to examine whether the mind has the idea of such a boundless space actually existing, since our ideas are not always proofs of the existence of things; but yet, since this comes here in our way, I suppose I may say, that we are apt to think that space in itself is actually boundless: to which imagination, the idea of space or expansion of itself naturally leads us.

For it being considered by us either as the extension of body, or as existing by itself, without any solid matter, taking it up (for of such a void space we have not only the idea, but I have proved, as I think, from the motion of body, its necessary existence), it is impossible the mind should be ever able to find or suppose any end of it, or be stopped any where in its progress in this space, how far soever it extends its thoughts.

Any bounds made with body, even adamantine walls, are so far from putting a stop to the mind in its farther progress in space and extension, that it rather facilitates and enlarges it; for so far as that body reaches, so far no one can doubt of extension: and when we are come to the utmost extremity of body, what is there that can there put

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How we come by the idea of infinity.—Anyone who has an idea of some fixed length of space, such as a foot, finds that he can repeat that idea, and by joining it to the first, make the idea of two feet; by adding a third, three feet; and so on, without ever coming to an end of his addition. This holds whether he adds the same idea of a foot, or, if he likes, doubles it, or any other idea he has of a length, such as a mile, or the diameter of the earth, or of the *orbis magnus*. Whichever of these he takes, and however often he doubles it or otherwise multiplies it, he finds that after he has continued this doubling in his thoughts, and enlarged his idea as much as he likes, he has no more reason to stop, and is not one bit nearer the end of such addition, than he was when he first set out.[34]

Since the power of enlarging his idea of space by further additions still remains the same, he takes from this the idea of infinite space.

Our idea of space is boundless.—This, I think, is the way the mind gets the idea of infinite space. Whether the mind has the idea of such a boundless space actually existing is quite a different question, since our ideas are not always proofs of the existence of things. But since it comes up here, I suppose I may say that we are inclined to think that space in itself is actually boundless; and the idea of space or expansion naturally leads us of itself to this imagination.

For whether we consider space as the extension of body, or as existing by itself with no solid matter occupying it (for of such a void space we not only have the idea, but I have proved, I think, its necessary existence from the motion of body), it is impossible for the mind ever to find or suppose any end to it, or to be stopped anywhere in its progress through this space, however far it extends its thoughts.

Any bounds made of body, even walls of adamant, are so far from stopping the mind in its further progress in space and extension that they rather make that progress easier and extend it. For as far as that body reaches, no one can doubt there is extension. And when we have come to the farthest limit of body, what is there that can stop the mind

34 *Orbis magnus*: "the great orb," the earth's orbit around the sun, the largest length then commonly used in astronomy.

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a stop and satisfy the mind that it is at the end of space, when it perceives that it is not; nay, when it is satisfied that body itself can move into it?

For if it be necessary for the motion of body, that there should be an empty space, though ever so little, here among bodies; and if it be possible for body to move in or through that empty space (nay, it is impossible for any particle of matter to move but into an empty space,) the same possibility of a body's moving into a void space, beyond the utmost bounds of body, as well as into a void space interspersed among bodies, will always remain clear and evident: the idea of empty pure space, whether within or beyond the confines of all bodies, being exactly the same, differing not in nature, though in bulk; and there being nothing to hinder body from moving into it.

So that wherever the mind places itself by any thought, either among or remote from all bodies, it can in this uniform idea of space nowhere find any bounds, any end; and so must necessarily conclude it, by the very nature and idea of each part of it, to be actually infinite.

2.17.5 *And so of duration.*—As by the power we find in ourselves of repeating, as often as we will, any idea of space, we get the idea of immensity, so, by being able to repeat the idea of any length of duration we have in our minds, with all the endless addition of number, we come by the idea of eternity. For we find in ourselves, we can no more come to an end of such repeated ideas, than we can come to the end of number, which every one perceives he cannot. But here again it is another question, quite different from our having an idea of eternity; to know whether there were any real being, whose duration has been eternal.

And as to this, I say, he that considers something now existing, must necessarily come to something eternal. But having spoke of this in another place, I shall here say no more of it, but proceed on to some other considerations of our idea of infinity.

2.17.6 *Why other ideas are not capable of infinity.*—If it be so, that our idea of infinity be got from the power we observe in ourselves of repeating without end our own ideas; it may be demanded, "why we do

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and satisfy it that it is at the end of space, when it perceives that it is not—indeed, when it is satisfied that body itself can move into it?

For if it is necessary for the motion of body that there be some empty space, however little, here among bodies; and if it is possible for body to move in or through that empty space (indeed, it is impossible for any particle of matter to move except into an empty space); then the same possibility of a body's moving into a void space beyond the farthest bounds of body, as well as into a void space scattered among bodies, will always remain clear and evident. For the idea of pure empty space, whether inside or beyond the limits of all bodies, is exactly the same, differing not in nature, though in size; and there is nothing to prevent body from moving into it.

So wherever the mind places itself in thought, either among all bodies or far from them, it can find no bounds, no end anywhere in this uniform idea of space; and so it must necessarily conclude, from the very nature and idea of each part of it, that space is actually infinite.

And the same with duration.—Just as we get the idea of immensity from the power we find in ourselves of repeating any idea of space as often as we like, so, by being able to repeat the idea of any length of duration we have in our minds, with all the endless addition of number, we come by the idea of eternity. For we find in ourselves that we can no more come to an end of such repeated ideas than we can come to the end of number, which everyone perceives he cannot do. But here again, whether there was any real being whose duration has been eternal is another question, quite different from our having an idea of eternity.

And as to this, I say that anyone who considers something now existing must necessarily arrive at something eternal. But since I have spoken of this in another place, I will say no more about it here, and will go on to some other points about our idea of infinity.[35]

Why other ideas are not capable of infinity.—If our idea of infinity is got from the power we observe in ourselves of repeating our own ideas without end, it may be asked "why we do not attribute in-

35 The argument is given in 4.10, on our knowledge of the existence of God.

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not attribute infinite to other ideas, as well as those of space and duration;" since they may be as easily and as often repeated in our minds as the other; and yet nobody ever thinks of infinite sweetness, or infinite whiteness, though he can repeat the idea of sweet or white as frequently as those of a yard, or a day?

To which I answer, all the ideas that are considered as having parts, and are capable of increase by the addition of any equal or less parts, afford us by their repetition the idea of infinity; because with this endless repetition there is continued an enlargement, of which there can be no end.

But in other ideas it is not so: for to the largest idea of extension or duration that I at present have, the addition of any the least part makes an increase; but to the perfectest idea I have of the whitest whiteness, if I add another of a less or equal whiteness (and of a whiter than I have I cannot add the idea,) it makes no increase, and enlarges not my idea at all; and therefore the different ideas of whiteness, &c. are called degrees.

For those ideas that consist of parts are capable of being augmented by every addition of the least part; but if you take the idea of white, which one parcel of snow yielded yesterday to your sight, and another idea of white from another parcel of snow you see to-day, and put them together in your mind, they embody, as it were, and run into one, and the idea of whiteness is not at all increased; and if we add a less degree of whiteness to a greater, we are so far from increasing that we diminish it.

Those ideas that consist not of parts cannot be augmented to what proportion men please, or be stretched beyond what they have received by their senses, but space, duration, and number, being capable of increase by repetition, leave in the mind an idea of endless room for more: nor can we conceive any where a stop to a farther addition or progression, and so those ideas alone lead our minds towards the thought of infinity.

2.17.7 *Difference between infinity of space, and space infinite.*—Though our idea of infinity arise from the contemplation of quantity, and the endless increase the mind is able to make in quantity, by

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finity to other ideas as well as to those of space and duration," since they can be repeated in our minds as easily and as often as those. Yet nobody ever thinks of infinite sweetness or infinite whiteness, though he can repeat the idea of sweet or white as often as those of a yard or a day.

My answer is this. All ideas that are considered as having parts, and that can be increased by adding any equal or smaller parts, give us the idea of infinity through their repetition, because along with this endless repetition there goes an enlargement that can have no end.

But with other ideas it is not so. To the largest idea of extension or duration that I have at present, adding even the smallest part makes an increase. But if to the most perfect idea I have of the whitest whiteness I add another of lesser or equal whiteness (and I cannot add the idea of a whiter one than I have), it makes no increase and does not enlarge my idea at all. That is why the different ideas of whiteness, and so on, are called degrees.

For ideas that consist of parts can be increased by every addition of the smallest part. But if you take the idea of white that one patch of snow gave your sight yesterday, and another idea of white from another patch of snow you see today, and put them together in your mind, they merge, as it were, and run into one, and the idea of whiteness is not increased at all. And if we add a lesser degree of whiteness to a greater, far from increasing it, we diminish it.

Ideas that do not consist of parts cannot be increased to whatever proportion men like, or stretched beyond what they have received through their senses. But space, duration, and number, being capable of increase by repetition, leave in the mind an idea of endless room for more. Nor can we conceive a stop anywhere to further addition or progression; and so these ideas alone lead our minds toward the thought of infinity.

The difference between infinity of space and space infinite.—Our idea of infinity arises from contemplating quantity, and the endless increase the mind is able to make in quantity by repeatedly adding

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the repeated additions of what portions thereof it pleases; yet I guess we cause great confusion in our thoughts, when we join infinity to any supposed idea of quantity the mind can be thought to have, and so discourse or reason about an infinite quantity, viz. an infinite space, or an infinite duration.

For our idea of infinity being, as I think, an endless growing idea; but the idea of any quantity the mind has, being at that time terminated in that idea (for be it as great as it will, it can be no greater than it is,) to join infinity to it, is to adjust a standing measure to a growing bulk;

and therefore I think it is not an insignificant subtlety, if I say that we are carefully to distinguish between the idea of the infinity of space, and the idea of a space infinite: the first is nothing but a supposed endless progression of the mind, over what repeated ideas of space it pleases; but to have actually in the mind the idea of a space infinite, is to suppose the mind already passed over, and actually to have a view of all those repeated ideas of space, which an endless repetition can never totally represent to it; which carries in it a plain contradiction.

2.17.8 *We have no idea of infinite space.*—This, perhaps, will be a little plainer, if we consider it in numbers. The infinity of numbers, to the end of whose addition every one perceives there is no approach, easily appears to any one that reflects on it; but how clear soever this idea of the infinity of number be, there is nothing yet more evident, than the absurdity of the actual idea of an infinite number.

Whatsoever positive ideas we have in our minds of any space, duration, or number, let them be ever so great, they are still finite; but when we suppose an inexhaustible remainder, from which we remove all bounds, and wherein we allow the mind an endless progression of thought, without ever completing the idea, there we have our idea of infinity; which, though it seems to be pretty clear when we consider nothing else in it but the negation of an end, yet when we would frame in our minds the idea of an infinite space or duration, that idea is very obscure and confused, because it is made up of two parts, very different, if not inconsistent.

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whatever portions of it the mind pleases. Yet I suspect we cause great confusion in our thoughts when we join infinity to some supposed idea of quantity that the mind can be thought to have, and so talk or reason about an infinite quantity—namely, an infinite space or an infinite duration.

For our idea of infinity is, I think, an endlessly growing idea; but the idea of any quantity the mind has is, at that time, bounded in that idea (for however great it is, it can be no greater than it is). To join infinity to it, then, is to fit a fixed measure to a growing bulk;

and therefore I think it is not a pointless subtlety if I say that we must carefully distinguish between the idea of the infinity of space and the idea of a space infinite. The first is nothing but a supposed endless progression of the mind over whatever repeated ideas of space it pleases. But to have actually in the mind the idea of a space infinite is to suppose that the mind has already passed over, and actually has in view, all those repeated ideas of space which an endless repetition can never wholly present to it—which carries in it a plain contradiction.

We have no idea of infinite space.—This will perhaps be a little plainer if we consider it in numbers. The infinity of numbers, to the end of whose addition everyone perceives there is no approach, is readily apparent to anyone who reflects on it. But however clear this idea of the infinity of number is, nothing is more evident than the absurdity of an actual idea of an infinite number.

Whatever positive ideas we have in our minds of any space, duration, or number, however great they are, they are still finite. But when we suppose an inexhaustible remainder, from which we remove all bounds, and in which we allow the mind an endless progression of thought without ever completing the idea, there we have our idea of infinity. This seems fairly clear when we consider nothing in it but the negation of an end. Yet when we try to form in our minds the idea of an infinite space or duration, that idea is very obscure and confused, because it is made up of two very different parts, if not inconsistent ones.

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For let a man frame in his mind an idea of any space or number as great as he will, it is plain the mind rests and terminates in that idea, which is contrary to the idea of infinity, which consists in a supposed endless progression.

And therefore I think it is, that we are so easily confounded, when we come to argue and reason about infinite space or duration, &c.: because the parts of such an idea not being perceived to be, as they are, inconsistent, the one side or the other always perplexes, whatever consequences we draw from the other; as an idea of motion not passing on would perplex any one, who should argue from such an idea, which is not better than an idea of motion at rest: and such another seems to me to be the idea of a space, or (which is the same thing) a number infinite, i.

e. of a space or number which the mind actually has, and so views and terminates in; and of a space or number which in a constant and endless enlarging and progression, it can in thought never attain to. For how large soever an idea of space I have in my mind, it is no larger than it is that instant that I have it, though I be capable the next instant to double it, and so on in infinitum: for that alone is infinite which has no bounds; and that the idea of infinity, in which our thoughts can find none.

2.17.9 *Number affords us the clearest idea of infinity.*—But of all other ideas, it is number, as I have said, which, I think, furnishes us with the clearest and most distinct idea of infinity we are capable of. For even in space and duration, when the mind pursues the idea of infinity, it there makes use of the ideas and repetitions of numbers, as of millions and millions of miles, or years, which are so many distinct ideas, kept best by number from running into a confused heap, wherein the mind loses itself; and when it has added together as many millions, &c.

as it pleases, of known lengths of space or duration, the clearest idea it can get of infinity is the confused incomprehensible remainder of endless addible numbers which affords no prospect of stop or boundary.

2.17.10 *Our different conception of the infinity of number, duration, and expansion.*—It will, perhaps, give us a

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For let a man form in his mind an idea of any space or number as great as he likes: it is plain that the mind rests and terminates in that idea, which is contrary to the idea of infinity, which consists in a supposed endless progression.

And this, I think, is why we are so easily confused when we come to argue and reason about infinite space or duration, and so on. Since the parts of such an idea are not perceived to be inconsistent, as they are, one side or the other always perplexes us, whatever consequences we draw from the other side. It is just as an idea of motion that does not move on would perplex anyone who argued from such an idea, which is no better than an idea of motion at rest. And the idea of a space, or (which is the same thing) a number, infinite seems to me to be another of this kind—that is,

the idea of a space or number which the mind actually has, and so views and terminates in, joined with that of a space or number which, in a constant and endless enlarging and progression, it can never reach in thought. For however large an idea of space I have in my mind, it is no larger than it is at the instant I have it, even though I may be able the next instant to double it, and so on to infinity. For that alone is infinite which has no bounds; and that alone is the idea of infinity in which our thoughts can find none.

Number gives us the clearest idea of infinity.—But of all our ideas it is number, as I have said, that I think supplies us with the clearest and most distinct idea of infinity we are capable of. For even in space and duration, when the mind pursues the idea of infinity, it makes use there of the ideas and repetitions of numbers, such as millions and millions of miles or years. These are so many distinct ideas, kept best by number from running together into a confused heap in which the mind loses itself. And when it has added together as many millions, and so on,

as it likes, of known lengths of space or duration, the clearest idea it can get of infinity is the confused, incomprehensible remainder of endlessly addible numbers, which offers no prospect of a stop or boundary.

Our different conceptions of the infinity of number, duration, and expansion.—It may give us a little

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little farther light into the idea we have of infinity, and discover to us that it is nothing but the infinity of number applied to determinate parts, of which we have in our minds the distinct ideas, if we consider that number is not generally thought by us infinite, whereas duration and extension are apt to be so; which arises from hence, that in number we are at one end as it were: for there being in number nothing less than a unit, we there stop, and are at an end; but in addition or increase of number, we can set no bounds.

And so it is like a line, whereof one end terminating with us, the other is extended still forward beyond all that we can conceive; but in space and duration it is otherwise. For in duration we consider it, as if this line of number were extended both ways, to an unconceivable, undeterminate, and infinite length: which is evident to any one that will but reflect on what consideration he hath of eternity; which, I suppose, he will find to be nothing else but the turning this infinity of number both ways *a parte ante* and *a parte post*, as they speak.

For when we would consider eternity, *a parte ante*, what do we but, beginning from ourselves and the present time we are in, repeat in our minds the idea of years, or ages, or any other assignable portion of duration past, with a prospect of proceeding in such addition with all the infinity of number? and when we would consider eternity, *a parte post*, we just after the same rate begin from ourselves, and reckon by multiplied periods yet to come, still extending that line of number, as before.

And these two being put together, are that infinite duration we call eternity; which, as we turn our view either way, forward or backward, appears infinite, because we still turn that way the infinite end of number, *i. e.* the power still of adding more.

2.17.11 The same happens also in space, wherein conceiving ourselves to be as it were in the centre, we do on all sides pursue those indeterminable lines of number: and reckoning any way from ourselves, a yard, mile, diameter of the earth, or *orbis magnus*, by the infinity of

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more light on the idea we have of infinity, and show us that it is nothing but the infinity of number applied to determinate parts of which we have distinct ideas in our minds, if we consider that we do not generally think of number as infinite, whereas we are apt to think so of duration and extension. This comes from the fact that in number we are, as it were, at one end: since there is nothing in number smaller than a unit, we stop there and are at an end. But in the addition or increase of number, we can set no bounds.

And so number is like a line, one end of which terminates with us, while the other extends forward beyond all we can conceive. But in space and duration it is otherwise. For in duration we consider it as if this line of number were extended both ways to an inconceivable, indeterminate, and infinite length. This is evident to anyone who will simply reflect on how he thinks of eternity. He will find, I suppose, that it is nothing but turning this infinity of number both ways, *a parte ante* and *a parte post*, as they say.[36]

For when we want to consider eternity *a parte ante*, what do we do but start from ourselves and the present time we are in, and repeat in our minds the idea of years, or ages, or any other assignable portion of past duration, with the prospect of carrying on such addition with all the infinity of number? And when we want to consider eternity *a parte post*, we begin from ourselves in just the same way and count by multiplied periods still to come, still extending that line of number as before.

And these two put together make that infinite duration we call eternity. Whichever way we turn our view, forward or backward, it appears infinite, because we always turn that way the infinite end of number—that is, the power of always adding more.

The same thing happens also with space. Conceiving ourselves to be, as it were, at the center, we follow those indeterminable lines of number on all sides. Counting in any direction from ourselves a yard, a mile, the diameter of the earth, or the *orbis magnus*, we add others to them by the infinity of

36 Scholastic phrases: "on the side of before" and "on the side of after," that is, eternity without beginning and eternity without end.

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number, we add others to them as often as we will; and having no more reason to set bounds to those repeated ideas than we have to set bounds to number, we have that indeterminable idea of immensity.

2.17.12 *Infinite divisibility.*—And since in any bulk of matter our thoughts can never arrive at the utmost divisibility, therefore there is an apparent infinity to us also in that, which has the infinity also of number; but with this difference, that, in the former considerations of the infinity of space and duration, we only use addition of numbers; whereas this is like the division of an unit into its fractions, wherein the mind also can proceed in infinitum, as well as in the former additions; it being indeed but the addition still of new numbers: though in the addition of the one we can have no more the positive idea of a space infinitely great, than, in the division of the other, we can have the idea of a body infinitely little; our idea of infinity being, as I may say, a growing or fugitive idea, still in a boundless progression, that can stop nowhere.

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number as often as we like. And having no more reason to set bounds to those repeated ideas than we have to set bounds to number, we have that indeterminable idea of immensity.

Infinite divisibility.—And since in any bulk of matter our thoughts can never reach the utmost divisibility, there is an apparent infinity for us in that too, which also has the infinity of number. But there is this difference. In the earlier considerations of the infinity of space and duration we use only the addition of numbers, whereas this is like the division of a unit into its fractions, in which the mind can also proceed to infinity just as in the earlier additions—it being in fact still only the addition of new numbers. Yet in the addition of the one we can no more have the positive idea of a space infinitely great than, in the division of the other, we can have the idea of a body infinitely small. Our idea of infinity is, so to speak, a growing or fleeting idea, always in a boundless progression that can stop nowhere.

NO POSITIVE IDEA OF INFINITY

Our idea of infinity is negative: an endless addition that can never be completed.

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2.17.13 *No positive idea of infinity.*—Though it be hard, I think, to find any one so absurd as to say he has the positive idea of an actual infinite number; the infinity whereof lies only in a power still of adding any combination of units to any former number, and that as long and as much as one will; the like also being in the infinity of space and duration, which power leaves always to the mind room for endless additions; yet there be those who imagine they have positive ideas of infinite duration and space.

It would, I think, be enough to destroy any such positive idea of infinite, to ask him that has it, whether he could add to it or no; which would easily show the mistake of such a positive idea. We can, I think, have no positive idea of any space or duration which is not made up of, and commensurate to, repeated numbers of feet or yards, or days and years, which are the common measures, whereof we have the ideas in our

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No positive idea of infinity.—It would be hard, I think, to find anyone so absurd as to say he has the positive idea of an actual infinite number, the infinity of which lies only in the power of always adding any combination of units to any previous number, for as long and as much as one likes. The same holds for the infinity of space and duration, where this power always leaves the mind room for endless additions. Yet there are those who imagine they have positive ideas of infinite duration and space.

It would be enough, I think, to destroy any such positive idea of infinite to ask the man who has it whether he could add to it or not; this would easily show the mistake of such a positive idea. We can have no positive idea, I think, of any space or duration that is not made up of, and commensurate with, repeated numbers of feet or yards, or of days and years. These are the common measures of which we have the ideas in our minds, and by which we judge the size of quantities of this sort.

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minds, and whereby we judge of the greatness of this sort of quantities.

And therefore, since an infinite idea of space or duration must needs be made up of infinite parts, it can have no other infinity than that of number, capable still of farther addition; but not an actual positive idea of a number infinite. For, I think, it is evident that the addition of finite things together (as are all lengths, whereof we have the positive ideas) can never otherwise produce the idea of infinite, than as number does; which, consisting of additions of infinite units one to another, suggests the idea of infinite, only by a power we find we have of still increasing the sum, and adding more of the same kind, without coming one jot nearer the end of such progression.

2.17.14 They who would prove their idea of infinite to be positive, seem to me to do it by a pleasant argument, taken from the negation of an end; which being negative, the negation of it is positive. He that considers that the end is, in body, but the extremity or superficies of that body, will not perhaps be forward to grant that the end is a bare negative: and he that perceives the end of his pen is black or white, will be apt to think that the end is something more than a pure negation. Nor is it, when applied to duration, the bare negation of existence, but more properly the last moment of it.

But if they will have the end to be nothing but the bare negation of existence, I am sure they cannot deny but the beginning is the first instant of being, and is not by any body conceived to be a bare negation: and, therefore, by their own argument, the idea of eternal, *a parte ante*, or of a duration without a beginning, is but a negative idea.

2.17.15 *What is positive, what negative, in our idea of infinite.* —The idea of infinite has, I confess, something of positive in all those things we apply to it. When we would think of infinite space or duration, we at first step usually make some very large idea, as perhaps of millions of ages, or miles, which possibly we double and multiply several times. All that we thus amass together in our thoughts, is positive, and the assemblage of a great number of positive ideas of space or duration.

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And therefore, since an infinite idea of space or duration must necessarily be made up of infinite parts, it can have no other infinity than that of number, always capable of further addition—but not an actual positive idea of an infinite number. For it is evident, I think, that adding finite things together (as all lengths are of which we have positive ideas) can never produce the idea of infinite except in the way number does. Number, consisting of additions of infinite units to one another, suggests the idea of infinite only through a power we find we have of always increasing the sum and adding more of the same kind, without coming one bit nearer the end of such progression.

Those who want to prove that their idea of infinite is positive seem to me to do it by an amusing argument taken from the negation of an end: since an end is negative, the negation of it is positive. Anyone who considers that the end of a body is simply the extremity or surface of that body will perhaps not be quick to grant that the end is a mere negative. And anyone who perceives that the end of his pen is black or white will be inclined to think that the end is something more than a pure negation. Nor, when applied to duration, is the end the mere negation of existence; it is more properly its last moment.

But if they insist that the end is nothing but the mere negation of existence, I am sure they cannot deny that the beginning is the first instant of being, and that nobody conceives it to be a mere negation. And therefore, by their own argument, the idea of eternal *a parte ante*, or of a duration without a beginning, is only a negative idea.

What is positive and what negative in our idea of infinite.—The idea of infinite does, I admit, have something positive in all the things we apply it to. When we want to think of infinite space or duration, we usually begin by forming some very large idea, perhaps of millions of ages or miles, which we may double and multiply several times. All that we thus amass together in our thoughts is positive: an assemblage of a great number of positive ideas of space or duration.

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But what still remains beyond this, we have no more a positive distinct notion of, than a mariner has of the depth of the sea; where, having let down a large portion of his sounding-line, he reaches no bottom: whereby he knows the depth to be so many fathoms and more; but how much that more is he hath no distinct notion at all: and could he always supply new line, and find the plummet always sink, without ever stopping, he would be something in the posture of the mind reaching after a complete and positive idea of infinity.

In which case let this line be ten, or ten thousand fathoms long, it equally discovers what is beyond it; and gives only this confused and comparative idea, that this is not all, but one may yet go farther. So much as the mind comprehends of any space, it has a positive idea of; but in endeavouring to make it infinite, it being always enlarging, always advancing, the idea is still imperfect and incomplete. So much space as the mind takes a view of in its contemplation of greatness, is a clear picture, and positive in the understanding: but infinite is still greater. 1. Then the idea of so much is positive and clear. 2.

The idea of greater is also clear, but it is but a comparative idea, viz. the idea of so much greater as cannot be comprehended; and is plainly negative, not positive. For he has no positive clear idea of the largeness of any extension (which is that sought for in the idea of infinite,) that has not a comprehensive idea of the dimensions of it; and such nobody, I think, pretends to in what is infinite.

For to say a man has a positive clear idea of any quantity, without knowing how great it is, is as reasonable as to say, he has the positive clear idea of the number of the sands on the sea-shore, who knows not how many there be, but only that they are more than twenty. For just such a perfect and positive idea has he of an infinite space or duration, who says it is larger than the extent or duration of ten, one hundred, one thousand, or any other number of miles, or years, whereof he has, or can have, a positive idea; which is all the idea, I think, we have of infinite. So that what lies beyond our positive

idea towards infinity, lies in obscurity; and has the indeterminate confusion of a negative idea,

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But of what still remains beyond this we have no more a positive, distinct notion than a sailor has of the depth of the sea when, having let down a great length of his sounding line, he reaches no bottom. From this he knows the depth is so many fathoms and more; but how much that more is, he has no distinct notion at all. And if he could always supply new line, and find the plummet always sinking without ever stopping, he would be somewhat in the position of the mind reaching after a complete and positive idea of infinity.

In that case, whether this line is ten fathoms long or ten thousand, it reveals what lies beyond it to the same extent, giving only this confused and comparative idea: that this is not all, but one can still go further. As much of any space as the mind comprehends, it has a positive idea of. But in trying to make it infinite, the idea, always enlarging and always advancing, remains imperfect and incomplete. As much space as the mind surveys in its contemplation of greatness is a clear picture, and positive in the understanding; but infinite is still greater. 1. So the idea of so much is positive and clear. 2.

The idea of greater is also clear, but it is only a comparative idea—namely, the idea of so much greater that it cannot be comprehended—and it is plainly negative, not positive. For no one has a positive, clear idea of the size of any extension (which is what is sought in the idea of infinite) unless he has a comprehensive idea of its dimensions; and no one, I think, claims such an idea of what is infinite.

To say that a man has a positive, clear idea of some quantity without knowing how great it is, is as reasonable as to say that a man has a positive, clear idea of the number of grains of sand on the seashore when he does not know how many there are, but only that they are more than twenty. For that is just how perfect and positive an idea of an infinite space or duration a man has who says it is larger than the extent or duration of ten, a hundred, a thousand, or any other number of miles or years of which he has or can have a positive idea. And that, I think, is all the idea we have of infinite. So what lies beyond our positive

idea, toward infinity, lies in obscurity. It has the indeterminate confusion of a negative idea, in

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wherein I know I neither do nor can comprehend all I would, it being too large for a finite and narrow capacity: and that cannot but be very far from a positive complete idea, wherein the greatest part of what I would comprehend is left out, under the undeterminate intimation of being still greater: for to say, that having in any quantity measured so much, or gone so far, you are not yet at the end, is only to say, that that quantity is greater.

So that the negation of an end, in any quantity is, in other words, only, to say that it is bigger: and a total negation of an end is but carrying this bigger still with you, in all the progressions your thoughts shall make in quantity, and adding this idea of still greater to all the ideas you have, or can be supposed to have, of quantity. Now, whether such an idea as that be positive, I leave any one to consider.

2.17.16 *We have no positive idea of an infinite duration.*—I ask those who say they have a positive idea of eternity, whether their idea of duration includes in it succession, or not? If it does not, they ought to show the difference of their notion of duration, when applied to an eternal being and to a finite; since perhaps, there may be others, as well as I, who will own to them their weakness of understanding in this point; and acknowledge that the notion they have of duration forces them to conceive, that whatever has duration, is of a longer continuance to-day than it was yesterday.

If, to avoid succession in eternal existence they recur to the *punctum stans* of the schools, I suppose they will thereby very little mend the matter, or help us to a more clear and positive idea of infinite duration, there being nothing more inconceivable to me than duration without succession. Besides, that *punctum stans*, if it signify any thing, being *non quantum*, finite or infinite, cannot belong to it.

But if our weak apprehensions cannot separate succession from any duration whatsoever, our idea of eternity can be nothing but of infinite succession of moments of duration, wherein any thing does exist; and whether any one has, or can have a positive idea of an actual infinite number, I leave him to consider, till his infinite number be

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which I know I neither do nor can comprehend all I would like to, since it is too large for a finite and narrow capacity. And that must be very far from a positive, complete idea, since the greatest part of what I would comprehend is left out, under the indeterminate hint of being still greater. For to say that, having measured so much of some quantity, or gone so far, you are not yet at the end, is only to say that the quantity is greater.

So the negation of an end in any quantity is, in other words, only saying that it is bigger. And a total negation of an end is just carrying this "bigger" along with you in all the progressions your thoughts make in quantity, and adding this idea of "still greater" to all the ideas of quantity you have, or can be supposed to have. Now whether such an idea is positive, I leave anyone to consider.

We have no positive idea of an infinite duration.—I ask those who say they have a positive idea of eternity whether their idea of duration includes succession or not. If it does not, they ought to show how their notion of duration differs when applied to an eternal being and to a finite one. For perhaps there are others besides me who will confess to them their weakness of understanding on this point, and acknowledge that the notion they have of duration forces them to conceive that whatever has duration has lasted longer today than it had yesterday.

If, to avoid succession in eternal existence, they fall back on the *punctum stans* of the Schoolmen, I suppose they will do very little to improve matters, or to help us to a clearer and more positive idea of infinite duration; for nothing is more inconceivable to me than duration without succession. Besides, if that *punctum stans* means anything, it is *non quantum*, without quantity, and so neither finite nor infinite can apply to it.[37]

But if our weak understandings cannot separate succession from any duration at all, our idea of eternity can only be of an infinite succession of moments of duration in which something exists. And whether anyone has, or can have, a positive idea of an actual infinite number, I leave him to consider until his infinite number is so great that

37 *Punctum stans*, "the standing point" or "standing now": the scholastic account of eternity as a single timeless present.

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so great that he himself can add no more to it; and as long as he can increase it, I doubt he himself will think the idea he hath of it a little too scanty for positive infinity.

2.17.17 I think it unavoidable for every considering rational creature, that will but examine his own or any other existence, to have the notion of an eternal wise Being, who had no beginning; and such an idea of infinite duration I am sure I have. But this negation of a beginning being but the negation of a positive thing, scarce gives me a positive idea of infinity; which, whenever I endeavour to extend my thoughts to, I confess myself at a loss, and I find I cannot attain any clear comprehension of it.

2.17.18 *No positive idea of infinite space.*—He that thinks he has a positive idea of infinite space, will, when he considers it, find that he can no more have a positive idea of the greatest, than he has of the least space. For in this latter, which seems the easier of the two, and more within our comprehension, we are capable only of a comparative idea of smallness, which will always be less than any one whereof we have the positive idea.

All our positive ideas of any quantity, whether great or little, have always bounds; though our comparative idea, whereby we can always add to the one and take from the other, hath no bounds; for that which remains either great or little, not being comprehended in that positive idea which we have, lies in obscurity; and we have no other idea of it, but of the power of enlarging the one, and diminishing the other, without ceasing.

A pestle and mortar will as soon bring any particle of matter to indivisibility as the acutest thought of a mathematician; and a surveyor may as soon with his chain measure out infinite space as a philosopher by the quickest flight of mind reach it, or by thinking comprehend it; which is to have a positive idea of it. He that thinks on a cube of an inch diameter, has a clear and positive idea of it in his mind, and so can frame one of a half, a quarter, and an eighth, and so on till he has the idea in his thoughts of something very little; but yet reaches not the idea of incomprehensible littleness which division can produce.

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he himself can add nothing more to it. As long as he can increase it, I suspect he himself will think the idea he has of it a little too meager for positive infinity.

I think it unavoidable for every thoughtful rational creature who will simply examine his own existence or any other to have the notion of an eternal, wise Being who had no beginning; and I am sure I have such an idea of infinite duration. But this negation of a beginning, being only the negation of a positive thing, hardly gives me a positive idea of infinity. Whenever I try to extend my thoughts to that, I confess I am at a loss, and I find I cannot reach any clear comprehension of it.

No positive idea of infinite space.—Anyone who thinks he has a positive idea of infinite space will find, when he considers it, that he can no more have a positive idea of the greatest space than of the least. For in the latter, which seems the easier of the two and more within our grasp, we are capable only of a comparative idea of smallness, which will always be smaller than any we have a positive idea of.

All our positive ideas of any quantity, whether great or small, always have bounds, though our comparative idea, by which we can always add to the one and take away from the other, has no bounds. For what remains, whether great or small, is not included in the positive idea we have, and so lies in obscurity; and we have no other idea of it than that of the power of enlarging the one and diminishing the other without ceasing.

A pestle and mortar will bring any particle of matter to indivisibility as soon as the sharpest thought of a mathematician will; and a surveyor may as soon measure out infinite space with his chain as a philosopher can reach it by the quickest flight of mind, or comprehend it by thinking—which is what having a positive idea of it would mean. Anyone who thinks of a cube an inch in diameter has a clear and positive idea of it in his mind, and so can form one of a half, a quarter, and an eighth of an inch, and so on, until he has in his thoughts the idea of something very small. But he still does not reach the idea of the incomprehensible smallness that division can produce.

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What remains of smallness is as far from his thoughts as when he first began; and therefore he never comes at all to have a clear and positive idea of that smallness which is consequent to infinite divisibility.

2.17.19 *What is positive, what negative, in our idea of infinite.*—Every one that looks towards infinity does, as I have said, at first glance make some very large idea of that which he applies it to, let it be space or duration; and possibly he wearies his thoughts, by multiplying in his mind that first large idea: but yet by that he comes no nearer to the having a positive clear idea of what remains to make up a positive infinite, than the country-fellow had of the water, which was yet to come and pass the channel of the river where he stood:

Rusticus expectat dum transeat amnis, at ille
Labitur, et labetur in omne volubilis ævum.

2.17.20 *Some think they have a positive idea of eternity, and not of infinite space.*—There are some I have met with, that put so much difference between infinite duration and infinite space, that they persuade themselves that they have a positive idea of eternity; but that they have not, nor can have, any idea of infinite space.

The reason of which mistake I suppose to be this, that finding by a due contemplation of causes and effects, that it is necessary to admit some eternal being, and so to consider the real existence of that being, as taken up and commensurate to their idea of eternity; but, on the other side, not finding it necessary, but, on the contrary, apparently absurd, that body should be infinite; they forwardly conclude, that they have no idea of infinite space, because they can have no idea of infinite matter.

Which consequence, I conceive, is very ill collected; because the existence of matter is noways necessary to the existence of space, no more than the existence of motion, or the sun, is necessary to duration, though duration use to be measured by it: and I doubt not but that a man may have the idea of ten thousand miles square, without any body so big, as well as the idea of ten thousand years, without any body so old.

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What remains of smallness is as far from his thoughts as when he first began; and so he never comes at all to have a clear and positive idea of the smallness that follows from infinite divisibility.

What is positive and what negative in our idea of infinite.—Everyone who looks toward infinity, as I have said, forms at first glance some very large idea of what he applies it to, whether space or duration; and he may tire his thoughts by multiplying that first large idea in his mind. But he comes no nearer by this to having a positive, clear idea of what remains to make up a positive infinite than the country fellow had of the water that was still to come and pass through the channel of the river where he stood:

"The rustic waits for the river to run by; but on it glides, and will glide on, rolling, through all time."[38]

Some think they have a positive idea of eternity, but not of infinite space.—I have met some people who put so much difference between infinite duration and infinite space that they persuade themselves they have a positive idea of eternity, but that they do not and cannot have any idea of infinite space.

The reason for this mistake, I suppose, is as follows. They find, by a proper consideration of causes and effects, that it is necessary to admit some eternal being, and so they consider the real existence of that being as filling and commensurate with their idea of eternity. But on the other side, they do not find it necessary—on the contrary, they find it plainly absurd—that body should be infinite; and so they rashly conclude that they have no idea of infinite space, because they can have no idea of infinite matter.

This inference, I think, is very badly drawn. For the existence of matter is in no way necessary to the existence of space, any more than the existence of motion, or of the sun, is necessary to duration, though duration is usually measured by it. And I have no doubt that a man may have the idea of a square ten thousand miles on each side without any body so big, just as he may have the

38 Horace, *Epistles* 1.2.42–43: "Rusticus expectat dum defluat amnis; at ille / labitur et labetur in omne volubilis aevum."

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It seems as easy to me to have the idea of space empty of body, as to think of the capacity of a bushel without corn, or the hollow of a nutshell without a kernel in it: it being no more necessary that there should be existing a solid body infinitely extended, because we have an idea of the infinity of space, than it is necessary that the world should be eternal, because we have an idea of infinite duration. And why should we think our idea of infinite space requires the real existence of matter to support it, when we find that we have as clear an idea of an infinite duration to come, as we have of infinite duration past?

Though, I suppose, nobody thinks it conceivable, that any thing does or has existed in that future duration. Nor is it possible to join our idea of future duration with present or past existence, any more than it is possible to make the ideas of yesterday, to-day, and to-morrow to be the same; or bring ages past and future together, and make them contemporary.

But if these men are of the mind, that they have clearer ideas of infinite duration than of infinite space, because it is past doubt that God has existed from all eternity, but there is no real matter coextended with infinite space; yet those philosophers who are of opinion that infinite space is possessed by God's infinite omnipresence, as well as infinite duration by his eternal existence, must be allowed to have as clear an idea of infinite space as of infinite duration; though neither of them, I think, has any positive idea of infinity in either case.

For whatsoever idea a man has in his mind of any quantity, he can repeat it, and add it to the former as easily as he can add together the ideas of two days, or two paces, which are positive ideas of lengths he has in his mind, and so on as long as he pleases; whereby if a man had a positive idea of infinite, either duration or space, he could add two infinites together; nay, make one infinite infinitely bigger than another: absurdities too gross to be confuted.

2.17.21 *Supposed positive ideas of infinity, cause of mistakes.* —But yet, if after all this, there being men who persuade themselves that they have clear positive comprehensive ideas of infinity, it is fit they enjoy

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idea of ten thousand years without any body so old.

It seems to me as easy to have the idea of space empty of body as to think of the capacity of a bushel without grain, or the hollow of a nutshell without a kernel in it. It is no more necessary that a solid body infinitely extended should exist because we have an idea of the infinity of space than it is necessary that the world should be eternal because we have an idea of infinite duration. And why should we think our idea of infinite space requires the real existence of matter to support it, when we find that we have as clear an idea of an infinite duration to come as we have of infinite duration past?

Yet I suppose nobody thinks it conceivable that anything does exist or has existed in that future duration. Nor is it possible to join our idea of future duration with present or past existence, any more than it is possible to make the ideas of yesterday, today, and tomorrow the same, or to bring past and future ages together and make them contemporary.

But suppose these men hold that they have clearer ideas of infinite duration than of infinite space because it is beyond doubt that God has existed from all eternity, whereas there is no real matter coextended with infinite space. Still, those philosophers who hold that infinite space is occupied by God's infinite omnipresence, just as infinite duration is by his eternal existence, must be allowed to have as clear an idea of infinite space as of infinite duration—though neither of them, I think, has any positive idea of infinity in either case.

For whatever idea of any quantity a man has in his mind, he can repeat it and add it to the former one as easily as he can add together the ideas of two days or two paces, which are positive ideas of lengths he has in his mind, and so on as long as he likes. So if a man had a positive idea of infinite duration or space, he could add two infinites together—indeed, make one infinite infinitely bigger than another: absurdities too gross to be refuted.

Supposed positive ideas of infinity are a cause of mistakes.—Yet if, after all this, there are people who persuade themselves that they have clear, positive, comprehensive ideas of infinity, they are wel-

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their privilege; and I should be very glad (with some others that I know, who acknowledge they have none such) to be better informed by their communication. For I have been hitherto apt to think that the great and inextricable difficulties which perpetually involve all discourses concerning infinity, whether of space, duration, or divisibility, have been the certain marks of a defect in our ideas of infinity, and the disproportion the nature thereof has to the comprehension of our narrow capacities.

For whilst men talk and dispute of infinite space or duration, as if they had as complete and positive ideas of them as they have of the names they use for them, or as they have of a yard, or an hour, or any other determinate quantity; it is no wonder if the incomprehensible nature of the thing they discourse of, or reason about, leads them into perplexities and contradictions; and their minds be overlaid by an object too large and mighty to be surveyed and managed by them.

2.17.22 *All these ideas from sensation and reflection.*—If I have dwelt pretty long on the consideration of duration, space, and number, and what arises from the contemplation of them, infinity; it is possibly no more than the matter requires; there being few simple ideas whose modes give more exercise to the thoughts of men than these do. I pretend not to treat of them in their full latitude; it suffices to my design to show how the mind receives them, such as they are, from sensation and reflection; and how even the idea we have of infinity, how remote soever it may seem to be from any object of sense or operation of our mind, has nevertheless, as all our other ideas, its original there.

Some mathematicians perhaps, of advanced speculations, may have other ways to introduce into their minds ideas of infinity; but this hinders not, but that they themselves, as well as all other men, got the first ideas which they had of infinity from sensation and reflection, in the method we have here set down.

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come to that privilege. I would be very glad, along with some others I know who admit they have no such ideas, to be better informed by their sharing them. For up to now I have been inclined to think that the great and inextricable difficulties that perpetually entangle all discussions of infinity, whether of space, duration, or divisibility, are sure signs of a defect in our ideas of infinity. They show how poorly its nature fits the grasp of our narrow capacities.

People talk and argue about infinite space or duration as if they had ideas of them as complete and positive as their ideas of the names they use for them, or of a yard, or an hour, or any other determinate quantity. While they do this, it is no wonder if the incomprehensible nature of the thing they are discussing or reasoning about leads them into perplexities and contradictions, and their minds are overwhelmed by an object too large and mighty for them to survey and manage.

All these ideas come from sensation and reflection.—I have dwelt rather long on duration, space, and number, and on what arises from contemplating them, namely infinity. If so, it is perhaps no more than the subject requires, since there are few simple ideas whose modes give people's thoughts more exercise than these. I do not claim to treat them in their full extent. It is enough for my purpose to show how the mind receives them, such as they are, from sensation and reflection. It is also enough to show how even our idea of infinity, however remote it may seem from any object of sense or operation of our mind, still has its origin there, like all our other ideas.

Some mathematicians of advanced speculations may perhaps have other ways of bringing ideas of infinity into their minds. But this does not change the fact that they, like everyone else, got their first ideas of infinity from sensation and reflection, in the way I have set out here.

OTHER SIMPLE MODES

Modes of motion, sound, color and taste, and why only some simple modes have names.

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Modes of motion.—Though I have in the foregoing chapters shown how from simple ideas, taken in by sensation, the mind comes to extend itself even to infinity; which however it may, of all others, seem most remote from any sensible perception, yet at last hath nothing in it but what is made out of simple ideas, received into the mind by the senses, and afterward there put together by the faculty the mind has to repeat its own ideas: though, I say, these might be instances enough of simple modes of the simple ideas of sensation, and suffice to show how the mind comes by them; yet I shall, for method's sake, though briefly, give an account of some few more, and then proceed to more complex ideas.

2.18.2 To slide, roll, tumble, walk, creep, run, dance, leap, skip, and abundance of others that might be named, are words which are no sooner heard but every one, who understands English, has presently in his mind distinct ideas, which are all but the different modifications of motion. Modes of motion answer those of extension: swift and slow are two different ideas of motion, the measures whereof are made of the distances of time and space put together; so they are complex ideas comprehending time and space with motion.

2.18.3 *Modes of sounds.*—The like variety have we in sounds. Every articulate word is a different modification of sound: by which we see, that from the sense of hearing, by such modifications, the mind may be furnished with distinct ideas to almost an infinite number. Sounds also, besides the distinct cries of birds and beasts, are modified by diversity of different notes of different length put together, which make that complex idea called a tune, which a musician may have in his mind when he hears or makes no sound at all, by reflecting on the ideas of those sounds so put together silently in his own fancy.

2.18.4 *Modes of colours.*—Those of colours are also very various: some we take notice of as the different degrees, or, as they are termed, shades of the same colour. But since we very seldom make assemblages of colours either for use or delight, but figure is taken in also, and has its part in it, as in painting, weaving, needleworks, &c. those which are taken notice of do most commonly belong to mixed modes, as being made up of ideas

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Modes of motion.—In the preceding chapters I have shown how the mind, starting from simple ideas taken in by sensation, comes to extend itself even to infinity. This idea may seem more remote than any other from sensible perception. Yet in the end it contains nothing but what is made out of simple ideas received into the mind by the senses and afterward put together there by the mind's faculty of repeating its own ideas. These might be instances enough of simple modes of the simple ideas of sensation, and enough to show how the mind comes by them. Still, for method's sake, I shall give a brief account of a few more, and then proceed to more complex ideas.

Slide, roll, tumble, walk, creep, run, dance, leap, skip, and plenty of others that could be named, are words that everyone who understands English no sooner hears than he immediately has distinct ideas in his mind. All of these are merely different modifications of motion. Modes of motion correspond to those of extension. Swift and slow are two different ideas of motion, and their measures are made from distances of time and space put together. So they are complex ideas that include time and space along with motion.

Modes of sounds.—We have the same variety in sounds. Every articulate word is a different modification of sound. This shows us that the sense of hearing, through such modifications, can furnish the mind with an almost infinite number of distinct ideas. Besides the distinct cries of birds and beasts, sounds are also modified by putting together a variety of different notes of different lengths, which make the complex idea called a tune. A musician can have a tune in his mind when he hears or makes no sound at all, by reflecting on the ideas of those sounds put together silently in his own imagination.

Modes of colors.—The modes of colors are also very various. Some we notice as different degrees, or, as they are called, shades, of the same color. But we very seldom put colors together, whether for use or delight, without shape also coming in and playing its part, as in painting, weaving, needlework, and so on. So the ones we notice mostly belong to mixed modes, since they are made up of ideas of

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of divers kinds, viz. figure and colour, such as beauty, rainbow, &c.

2.18.5 *Modes of taste.*—All compounded tastes and smells are also modes made up of the simple ideas of those senses. But they being such as generally we have no names for, are less taken notice of, and cannot be set down in writing; and therefore must be left without enumeration to the thoughts and experience of my reader.

2.18.6 *Some simple modes have no names.*—In general it may be observed that those simple modes which are considered but as different degrees of the same simple idea, though they are in themselves many of them very distinct ideas, yet have ordinarily no distinct names, nor are much taken notice of as distinct ideas, where the difference is but very small between them.

Whether men have neglected these modes, and given no names to them, as wanting measures nicely to distinguish them; or because, when they were so distinguished, that knowledge would not be of general or necessary use, I leave it to the thoughts of others: it is sufficient to my purpose to show that all our simple ideas come to our minds only by sensation and reflection; and that when the mind has them, it can variously repeat and compound them, and so make new complex ideas. But though white, red, or sweet, &c. have not been modified or made into complex ideas, by several combinations, so as to be named, and thereby ranked into species; yet some others of the simple ideas, viz.

those of unity, duration, motion, &c. above instanced in, as also power and thinking, have been thus modified to a great variety of complex ideas, with names belonging to them.

2.18.7 *Why some modes have, and others have not, names.*—The reason whereof, I suppose, has been this; that, the great concernment of men being with men one among another, the knowledge of men and their actions, and the signifying of them to one another, was most necessary; and therefore they made ideas of actions very nicely modified, and gave those complex ideas names, that they might the more easily record and discourse of those things they were daily conversant in, without long ambages and circumlocutions; and

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different kinds, namely shape and color. Beauty and a rainbow are examples.

Modes of taste.—All compound tastes and smells are also modes made up of the simple ideas of those senses. But since we generally have no names for them, they are less noticed and cannot be set down in writing. So I must leave them, unlisted, to my reader's own thoughts and experience.

Some simple modes have no names.—In general it may be observed that some simple modes are considered only as different degrees of the same simple idea. Where the difference between them is very small, these usually have no distinct names and are not much noticed as distinct ideas, even though many of them are in themselves quite distinct ideas.

Perhaps people have neglected these modes and given them no names because they lacked measures to distinguish them precisely. Or perhaps it is because, even if they were so distinguished, the knowledge would be of no general or necessary use. I leave that for others to consider. It is enough for my purpose to show that all our simple ideas come into our minds only by sensation and reflection. Once the mind has them, it can repeat and combine them in various ways, and so make new complex ideas. White, red, sweet, and so on have not been modified or made into complex ideas by various combinations so as to be named and thereby ranked into species. But some other simple ideas, namely

those of unity, duration, motion, and so on, given as instances above, as well as power and thinking, have been modified in this way into a great variety of complex ideas, with names belonging to them.

Why some modes have names and others do not.—The reason for this, I suppose, is as follows. People's great concern is with one another, so the knowledge of people and their actions, and the communicating of it to one another, was most necessary. Therefore they made ideas of actions very finely modified and gave those complex ideas names. That way they could more easily record and discuss the things they dealt with daily, without long roundabout expressions. It also meant that the things they constantly had to give and receive in-

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that the things they were continually to give and receive information about might be the easier and quicker understood.

That this is so, and that men in framing different complex ideas, and giving them names, have been much governed by the end of speech in general (which is a very short and expedite way of conveying their thoughts one to another,) is evident in the names which in several arts have been found out and applied to several complex ideas of modified actions belonging to their several trades, for despatch sake, in their direction or discourses about them; which ideas are not generally framed in the minds of men not conversant about these operations. And thence the words that stand for them, by the greatest part of men of the same language, are not understood: v.

g. colshire, drilling, filtration, cohobation, are words standing for certain complex ideas, which being seldom in the minds of any but those few whose particular employments do at every turn suggest them to their thoughts, those names of them are not generally understood but by smiths and chymists; who having framed the complex ideas which these words stand for, and having given names to them, or received them from others, upon hearing of these names in communication, readily conceive those ideas in their minds; as by cohobation all the simple ideas of distilling, and the pouring the liquor distilled from any thing back upon the remaining matter, and distilling it again.

Thus we see that there are great varieties of simple ideas, as of tastes and smells, which have no names, and of modes many more; which either not having been generally enough observed, or else not being of any great use to be taken notice of in the affairs and converse of men, they have not had names given to them, and so pass not for species. This we shall have occasion hereafter to consider more at large, when we come to speak of words.

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formation about could be understood more easily and quickly.

In framing different complex ideas and giving them names, people have been largely governed by the purpose of speech in general, which is a very short and quick way of conveying their thoughts to one another. That this is so is evident from the names devised in various crafts. For the sake of speed in giving directions or talking about their work, the members of each trade have applied names to various complex ideas of modified actions belonging to it. People unfamiliar with these operations generally do not frame these ideas in their minds, and so most people who speak the same language do not understand the words that stand for them. For example:

colshire, drilling, filtration, cohobation are words standing for certain complex ideas. These ideas are seldom in anyone's mind except the few whose particular occupations constantly bring them to mind, so these names are generally understood only by smiths and chemists. They have framed the complex ideas these words stand for, and have given names to them or received the names from others. So when they hear these names in conversation, they readily conceive those ideas in their minds. By cohobation, for instance, they conceive all the simple ideas of distilling, and of pouring the liquid distilled from something back onto the remaining matter and distilling it again.[39]

Thus we see that there is a great variety of simple ideas, such as tastes and smells, that have no names, and a far greater variety of modes. Either they have not been observed widely enough, or it is of no great use to notice them in people's affairs and conversation. So they have not been given names, and therefore they do not count as species. We shall have occasion to consider this more fully later, when we come to speak of words.

39 "Colshire" is an obscure craft term whose meaning is uncertain. "Cohobation" is repeated redistillation, a word of the chemists and alchemists of Locke's day.

MODES OF THINKING

Sensation, remembrance, contemplation, reverie and dreaming are modes of thinking, the action of the soul.

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2.19.1 *Sensation, remembrance, contemplation, &c.*—When the mind turns its view inwards upon itself, and contemplates its own actions, thinking is the first that occurs. In it the mind observes a great variety of modifications, and from thence receives distinct ideas. Thus the perception which actually accompanies, and is annexed to any impression on the body, made by an external object, being distinct from all other modifications of thinking, furnishes the mind with a distinct idea, which we call sensation; which is, as it were, the actual entrance of any idea into the understanding by the senses.

The same idea, when it again recurs without the operation of the like object on the external sensory, is remembrance; if it be sought after by the mind, and with pain and endeavour found and brought again in view, it is recollection; if it be held there long under attentive consideration, it is contemplation. When ideas float in our mind, without any reflection or regard of the understanding, it is that which the French call reverie; our language has scarce a name for it.

When the ideas that offer themselves (for, as I have observed in another place, whilst we are awake there will always be a train of ideas succeeding one another in our minds) are taken notice of, and, as it were, registered in the memory, it is attention. When the mind, with great earnestness, and of choice, fixes its view on any idea, considers it on all sides, and will not be called off by the ordinary solicitation of other ideas, it is that we call intention or study.

Sleep, without dreaming, is rest from all these: and dreaming itself is the having of ideas (whilst the outward senses are stopped, so that they receive not outward objects with their usual quickness) in the mind, not suggested by any external objects or known occasion, nor under any choice or conduct of the understanding at all. And whether that, which we call ecstasy, be not dreaming with the eyes open, I leave to be examined.

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Sensation, remembrance, contemplation, etc.—When the mind turns its view inward on itself and contemplates its own actions, thinking is the first that presents itself. In thinking, the mind observes a great variety of modifications, and from them it receives distinct ideas. Thus there is a perception that actually accompanies, and is attached to, any impression made on the body by an external object. This perception is distinct from all other modifications of thinking, and it furnishes the mind with a distinct idea, which we call sensation. Sensation is, as it were, the actual entrance of an idea into the understanding by the senses.

When the same idea recurs without the like object acting on the external sense organ, it is remembrance. If the mind searches for it, and with effort and pains finds it and brings it back into view, it is recollection. If it is held there for a long time under attentive consideration, it is contemplation. When ideas float in our mind without any reflection or regard on the part of the understanding, it is what the French call reverie; our language has hardly a name for it.

When the ideas that present themselves are noticed and, as it were, registered in the memory, it is attention. (As I have observed elsewhere, while we are awake there is always a train of ideas succeeding one another in our minds.) Sometimes the mind, very earnestly and by choice, fixes its view on some idea, considers it from every side, and will not be called away by the ordinary pull of other ideas. That is what we call intention, or study.

Sleep without dreaming is rest from all of these. Dreaming itself is having ideas in the mind while the outward senses are stopped, so that they do not receive outward objects with their usual quickness. These ideas are not suggested by any external objects or known occasion, nor are they under any choice or direction of the understanding at all. Whether what we call ecstasy is not simply dreaming with the eyes open, I leave for examination.

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These are some few instances of those various modes of thinking which the mind may observe in itself, and so have as distinct ideas of, as it hath of white and red, a square or a circle. I do not pretend to enumerate them all, nor to treat at large of this set of ideas which are got from reflection: that would be to make a volume.

It suffices to my present purpose to have shown here, by some few examples, of what sort these ideas are, and how the mind comes by them; especially since I shall have occasion hereafter to treat more at large of reasoning, judging, volition, and knowledge, which are some of the most considerable operations of the mind and modes of thinking.

2.19.3 *The various attention of the mind in thinking.*—But perhaps it may not be an unpardonable digression, nor wholly impertinent to our present design, if we reflect here upon the different state of the mind in thinking, which those instances of attention, reverie, and dreaming, &c. before mentioned, naturally enough suggest. That there are ideas, some or other, always present in the mind of a waking man, every one's experience convinces him, though the mind employs itself about them with several degrees of attention.

Sometimes the mind fixes itself with so much earnestness on the contemplation of some objects, that it turns their ideas on all sides, remarks their relations and circumstances, and views every part so nicely, and with such intention, that it shuts out all other thoughts, and takes no notice of the ordinary impressions made then on the senses which at another season would produce very sensible perceptions: at other times it barely observes the train of ideas that succeed in the understanding, without directing and pursuing any of them; and at other times it lets them pass almost quite unregarded, as faint shadows that make no impression.

2.19.4 *Hence it is probable that thinking is the action, not essence of the soul.*—This difference of intention and remission of the mind in thinking, with a great variety of degrees between earnest study and very near minding nothing at all, every one, I think, has experimented in himself. Trace it a little farther, and you find the mind in sleep retired as it were from the senses, and out of the

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These are a few instances of the various modes of thinking that the mind can observe in itself. Its ideas of them can be as distinct as its ideas of white and red, or of a square or a circle. I do not claim to list them all, or to treat at length this set of ideas that are got from reflection. That would fill a volume.

It is enough for my present purpose to have shown here, by a few examples, what sort of ideas these are and how the mind comes by them. This is especially so since I shall have occasion later to treat more fully of reasoning, judging, volition, and knowledge, which are some of the most important operations of the mind and modes of thinking.

The mind's varying attention in thinking.—But perhaps it would not be an unpardonable digression, nor wholly irrelevant to our present plan, to reflect here on the mind's different states in thinking. The instances mentioned above, such as attention, reverie, and dreaming, quite naturally suggest them. Everyone's experience convinces him that some ideas or other are always present in the mind of a waking man, though the mind occupies itself with them with various degrees of attention.

Sometimes the mind fixes itself so earnestly on contemplating certain objects that it turns their ideas on every side and notes their relations and circumstances. It views every part so precisely and with such intensity that it shuts out all other thoughts. It even takes no notice of the ordinary impressions then being made on the senses, which at another time would produce very noticeable perceptions. At other times it merely observes the train of ideas succeeding one another in the understanding, without directing or pursuing any of them. And at still other times it lets them pass almost entirely unregarded, like faint shadows that make no impression.

Hence it is probable that thinking is the action, not the essence, of the soul.—The mind's thinking can be more intense or more slack, with a great variety of degrees between earnest study and minding very nearly nothing at all. Everyone, I think, has experienced this difference in himself. Trace it a little further, and you find the mind in sleep withdrawn, as it were, from the senses. It is out of

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reach of those motions made on the organs of sense, which at other times produce very vivid and sensible ideas.

I need not for this, instance in those who sleep out whole stormy nights, without hearing the thunder, or seeing the lightning, or feeling the shaking of the house, which are sensible enough to those who are waking: but in this retirement of the mind from the senses, it often retains a yet more loose and incoherent manner of thinking, which we call dreaming; and, last of all, sound sleep closes the scene quite, and puts an end to all appearances. This, I think, almost every one has experience of in himself, and his own observation without difficulty leads him thus far.

That which I would farther conclude from hence is, that since the mind can sensibly put on, at several times, several degrees of thinking, and be sometimes even in a waking man so remiss, as to have thoughts dim and obscure to that degree, that they are very little removed from none at all; and at last, in the dark retirements of sound sleep, loses the sight perfectly of all ideas whatsoever: since, I say, this is evidently so in matter of fact and constant experience, I ask whether it be not probable that thinking is the action, and not the essence, of the soul?

since the operations of agents will easily admit of intention and remission, but the essences of things are not conceived capable of any such variation. But this by the by.

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reach of the motions made on the sense organs, which at other times produce very vivid and noticeable ideas.

To show this, I need not cite those who sleep through whole stormy nights without hearing the thunder, or seeing the lightning, or feeling the house shake, though all of this is noticeable enough to those who are awake. But in this withdrawal from the senses, the mind often keeps a still looser and more incoherent way of thinking, which we call dreaming. Finally, sound sleep closes the scene altogether and puts an end to all appearances. Almost everyone, I think, has experienced this in himself, and his own observation easily leads him this far.

What I would further conclude from this is as follows. At different times the mind can noticeably take on different degrees of thinking. Sometimes, even in a waking man, it is so slack that its thoughts are dim and obscure, to the point of being hardly different from none at all. And in the end, in the dark retreat of sound sleep, it completely loses sight of all ideas whatsoever. Since, I say, this is evidently so, as a matter of fact and constant experience, I ask whether it is not probable that thinking is the action, and not the essence, of the soul,

since the operations of agents readily admit of being intensified and relaxed, but the essences of things are not thought capable of any such variation. But this is by the way.

PLEASURE AND PAIN

Good and evil are defined by pleasure and pain, which give rise to love, desire, joy and other passions.

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2.20.1 *Pleasure and pain simple ideas.*—Among the simple ideas which we receive both from sensation and reflection, pain and pleasure are two very considerable ones. For as in the body there is sensation barely in itself, or accompanied with pain or pleasure; so the thought or perception of the mind is simply so, or else accompanied also with pleasure or pain, delight or trouble, call it how you please. These, like other simple ideas, cannot be described, nor their names defined; the way of knowing them is, as of the simple ideas of the senses, only by experience. For to define them

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Pleasure and pain are simple ideas.—Among the simple ideas we receive from both sensation and reflection, pain and pleasure are two very important ones. In the body there is sensation that is either bare in itself or accompanied by pain or pleasure. In the same way, the thought or perception of the mind is either simply that, or else accompanied also by pleasure or pain, delight or trouble, call it what you like. These, like other simple ideas, cannot be described, and their names cannot be defined. As with the simple ideas of the senses, the only way of knowing them is by

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by the presence of good or evil, is no otherwise to make them known to us.

than by making us reflect on what we feel in ourselves, upon the several and various operations of good and evil upon our minds, as they are differently applied to or considered by us.

2.20.2 *Good and evil, what.*—Things then are good or evil only in reference to pleasure or pain. That we call good, which is apt to cause or increase pleasure or diminish pain in us; or else to procure or preserve us the possession of any other good, or absence of any evil. And, on the contrary, we name that evil, which is apt to produce or increase any pain, or diminish any pleasure in us; or else to procure us any evil, or deprive us of any good.

By pleasure and pain, I must be understood to mean of body or mind, as they are commonly distinguished; though, in truth, they be only different constitutions of the mind, sometimes occasioned by disorder in the body, sometimes by thoughts of the mind.

2.20.3 *Our passions moved by good and evil.*—Pleasure and pain, and that which causes them, good and evil, are the hinges on which our passions turn; and if we reflect on ourselves, and observe how these, under various considerations, operate in us, what modifications or tempers of mind, what internal sensations (if I may so call them) they produce in us, we may thence form to ourselves the ideas of our passions.

2.20.4 *Love.*—Thus any one reflecting upon the thought he has of the delight which any present or absent thing is apt to produce in him, has the idea we call love. For when a man declares in autumn, when he is eating them, or in spring, when there are none, that he loves grapes, it is no more but that the taste of grapes delights him: let an alteration of health or constitution destroy the delight of their taste, and he then can be said to love grapes no longer.

2.20.5 *Hatred.*—On the contrary, the thought of the pain which any thing present or absent is apt to produce in us, is what we call hatred. Were it my business here to inquire any farther than into the bare ideas of our passions, as they depend on

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experience. For to define them by the presence of good or evil makes them known to us in no other way

than by making us reflect on what we feel in ourselves from the various operations of good and evil on our minds, as these are variously applied to us or considered by us.

What good and evil are.—Things, then, are good or evil only in relation to pleasure or pain. We call good whatever tends to cause or increase pleasure in us, or to diminish pain, or else to procure or preserve for us the possession of some other good or the absence of some evil. Conversely, we call evil whatever tends to produce or increase some pain in us, or to diminish some pleasure, or else to bring some evil on us or deprive us of some good.

By pleasure and pain I must be understood to mean those of body or of mind, as they are commonly distinguished. In truth, though, they are only different states of the mind, sometimes occasioned by disorder in the body, sometimes by thoughts of the mind.

Our passions are moved by good and evil.—Pleasure and pain, and what causes them, good and evil, are the hinges on which our passions turn. We can reflect on ourselves and observe how these operate in us under various aspects: what modifications or tempers of mind, what internal sensations (if I may call them that) they produce in us. From this we can form for ourselves the ideas of our passions.

Love.—Thus anyone who reflects on his thought of the delight that some present or absent thing tends to produce in him has the idea we call love. When a man declares that he loves grapes, whether in autumn while he is eating them or in spring when there are none, he means no more than that the taste of grapes delights him. Let a change in health or constitution destroy the delight of their taste, and he can no longer be said to love grapes.

Hatred.—On the other hand, the thought of the pain that something present or absent tends to produce in us is what we call hatred. It is my business here to inquire only into the bare ideas of our passions as they depend on different modifica-

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different modifications of pleasure and pain, I should remark, that our love and hatred of inanimate insensible beings, is commonly founded on that pleasure and pain which we receive from their use and application any way to our senses, though with their destruction: but hatred or love, to beings capable of happiness or misery, is often the uneasiness or delight which we find in ourselves, arising from a consideration of their very being or happiness.

Thus the being and welfare of a man's children or friends, producing constant delight in him, he is said constantly to love them. But it suffices to note, that our ideas of love and hatred are but the dispositions of the mind, in respect of pleasure and pain in general, however caused in us.

2.20.6 *Desire.*—The uneasiness a man finds in himself upon the absence of any thing, whose present enjoyment carries the idea of delight with it, is that we call desire; which is greater or less as that uneasiness is more or less vehement. Where, by the by, it may perhaps be of some use to remark, that the chief, if not only spur to human industry and action, is uneasiness.

For whatsoever good is proposed, if its absence carries no displeasure or pain with it, if a man be easy and content without it, there is no desire of it, nor endeavour after it; there is no more but a bare velleity, the term used to signify the lowest degree of desire, and that which is next to none at all, when there is so little uneasiness in the absence of any thing, that it carries a man no farther than some faint wishes for it, without any more effectual or vigorous use of the means to attain it.

Desire also is stopped or abated by the opinion of the impossibility or unattainableness of the good proposed, as far as the uneasiness is cured or allayed by that consideration. This might carry our thoughts farther, were it seasonable in this place.

2.20.7 *Joy.*—Joy is a delight of the mind from the consideration of the present or assured approaching possession of a good; and we are then possessed of any good when we have it so in our power that we can use it when we please. Thus a man almost starved has joy at the arrival

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tions of pleasure and pain. If it were my business to go further, I would remark that our love and hatred of inanimate, insensible beings is commonly based on the pleasure and pain we receive from using them and applying them in some way to our senses, even though this destroys them. But hatred or love toward beings capable of happiness or misery is often the uneasiness or delight we find in ourselves when we consider their very existence or happiness.

Thus the existence and welfare of a man's children or friends produce constant delight in him, and so he is said to love them constantly. But it is enough to note that our ideas of love and hatred are simply the dispositions of the mind with respect to pleasure and pain in general, however these are caused in us.

Desire.—There are things whose present enjoyment carries the idea of delight with it. The uneasiness a man finds in himself at the absence of such a thing is what we call desire. Desire is greater or less as that uneasiness is more or less intense. Here, by the way, it may be of some use to remark that the chief, if not the only, spur to human industry and action is uneasiness.

For whatever good is proposed, if its absence brings no displeasure or pain with it, and a man is easy and content without it, then there is no desire for it and no effort toward it. There is no more than a bare velleity. That is the term used for the lowest degree of desire, the one next to none at all. It is when there is so little uneasiness in the absence of something that it carries a man no further than a few faint wishes for it, without any more effective or vigorous use of the means to obtain it.

Desire is also stopped or reduced by the belief that the proposed good is impossible or unattainable, to the extent that this consideration cures or eases the uneasiness. This might lead our thoughts further, if this were the right place.

Joy.—Joy is a delight of the mind that comes from considering the present, or assured and approaching, possession of a good. And we are in possession of a good when we have it so much in our power that we can use it when we please. Thus a man who is nearly starving feels joy at the arrival

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of relief, even before he has the pleasure of using it: and a father, in whom the very well-being of his children causes delight, is always, as long as his children are in such a state, in the possession of that good; for he needs but to reflect on it to have that pleasure.

2.20.8 *Sorrow.*—Sorrow is uneasiness in the mind upon the thought of a good lost, which might have been enjoyed longer, or the sense of a present evil.

2.20.9 *Hope.*—Hope is that pleasure in the mind, which every one finds in himself upon the thought of a profitable future enjoyment of a thing which is apt to delight him.

2.20.10 *Fear.*—Fear is an uneasiness of the mind upon the thought of future evil likely to befall us.

2.20.11 *Despair.*—Despair is the thought of the unattainableness of any good, which works differently in men's minds, sometimes producing uneasiness or pain, sometimes rest and indolency.

2.20.12 *Anger.*—Anger is uneasiness or discomposure of the mind upon the receipt of any injury, with a present purpose of revenge.

2.20.13 *Envy.*—Envy is an uneasiness of the mind, caused by the consideration of a good we desire, obtained by one we think should not have had it before us.

2.20.14 *What passions all men have.*—These two last, envy and anger, not being caused by pain and pleasure, simply in themselves, but having in them some mixed considerations of ourselves and others, are not therefore to be found in all men, because those other parts of valuing their merits, or intending revenge, are wanting in them: but all the rest terminating purely in pain and pleasure, are, I think, to be found in all men.

For we love, desire, rejoice, and hope, only in respect of pleasure; we hate, fear, and grieve, only in respect of pain ultimately: in fine, all these passions are moved by things, only as they appear to be the causes of pleasure and pain, or to have pleasure or pain some way or other annexed to them.

Thus we extend our hatred usually to the subject (at least if a sensible or voluntary agent) which

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of relief even before he has the pleasure of using it. Likewise, a father who takes delight in the very well-being of his children is always in possession of that good, as long as his children are in that state, for he need only reflect on it to have that pleasure.

Sorrow.—Sorrow is uneasiness in the mind at the thought of a lost good that might have been enjoyed longer, or at the sense of a present evil.

Hope.—Hope is the pleasure in the mind that everyone finds in himself at the thought of a future enjoyment, to his advantage, of something that tends to delight him.

Fear.—Fear is an uneasiness of the mind at the thought of a future evil likely to befall us.

Despair.—Despair is the thought that some good is unattainable. It works differently in different people's minds, sometimes producing uneasiness or pain, sometimes rest and ease.

Anger.—Anger is uneasiness or disturbance of the mind on receiving some injury, together with a present intention of revenge.

Envy.—Envy is an uneasiness of the mind caused by considering a good we desire that has been obtained by someone we think should not have had it before us.

What passions all men have.—These last two, envy and anger, are not caused simply by pain and pleasure in themselves. They contain some mixed considerations of ourselves and others. So they are not found in everyone, because some people lack those other elements: valuing their own merits, or intending revenge. But all the rest end purely in pain and pleasure, and are, I think, found in everyone.

For we love, desire, rejoice, and hope only with respect to pleasure, and we hate, fear, and grieve ultimately only with respect to pain. In short, things move all these passions only insofar as they appear to be the causes of pleasure and pain, or to have pleasure or pain attached to them in one way or another.

Thus we usually extend our hatred to the thing that has caused us pain, at least if it is a sentient or

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has produced pain in us, because the fear it leaves is a constant pain: but we do not so constantly love what has done us good; because pleasure operates not so strongly on us as pain, and because we are not so ready to have hope it will do so again. But this by the by.

2.20.15 *Pleasure and pain, what.*—By pleasure and pain, delight and uneasiness, I must all along be understood (as I have above intimated) to mean, not only bodily pain and pleasure, but whatsoever delight or uneasiness is felt by us, whether arising from any grateful or unacceptable sensation or reflection.

2.20.16 It is farther to be considered, that in reference to the passions, the removal or lessening of a pain is considered and operates as a pleasure; and the loss or diminishing of a pleasure as a pain.

2.20.17 *Shame.*—The passions, too, have most of them in most persons operations on the body, and cause various changes in it; which not being always sensible, do not make a necessary part of the idea of each passion. For shame, which is an uneasiness of the mind upon the thought of having done something which is indecent, or will lessen the valued esteem which others have for us, has not always blushing accompanying it.

2.20.18 *These instances to show how our ideas of the passions are got from sensation and reflection.*—I would not be mistaken here, as if I meant this as a discourse of the passions; they are many more than those I have here named; and those I have taken notice of would each of them require a much larger and more accurate discourse. I have only mentioned these here as so many instances of modes of pleasure and pain resulting in our minds from various considerations of good and evil.

I might perhaps have instanced in other modes of pleasure and pain more simple than these, as the pain of hunger and thirst, and the pleasure of eating and drinking to remove them: the pain of tender eyes, and the pleasure of music; pain from captious uninstructive wrangling, and the pleasure of rational conversation with a friend, or of well-directed study in the search and discovery of truth. But the passions being of much more concernment to us, I rather made choice to

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voluntary agent, because the fear it leaves behind is a constant pain. But we do not so constantly love what has done us good. That is because pleasure does not act on us as strongly as pain, and because we are not so quick to hope that it will do us good again. But this is by the way.

What pleasure and pain are.—By pleasure and pain, delight and uneasiness, I must be understood throughout, as I indicated above, to mean more than bodily pain and pleasure. I mean whatever delight or uneasiness we feel, whether it arises from an agreeable or a disagreeable sensation or reflection.

It should further be considered that, where the passions are concerned, the removal or lessening of a pain is regarded as a pleasure and operates as one. In the same way, the loss or lessening of a pleasure is regarded as a pain.

Shame.—Most of the passions, in most people, also act on the body and cause various changes in it. But these changes are not always noticeable, so they are not a necessary part of the idea of each passion. Shame, for example, is an uneasiness of the mind at the thought of having done something indecent, or something that will lessen the esteem others have for us, which we value. Yet shame is not always accompanied by blushing.

These instances show how our ideas of the passions are got from sensation and reflection.—I do not want to be misunderstood here, as if I meant this as a treatise on the passions. There are many more of them than those I have named here, and each of those I have noted would require a much longer and more accurate discussion. I have mentioned these only as so many instances of modes of pleasure and pain arising in our minds from various considerations of good and evil.

I might perhaps have cited other modes of pleasure and pain simpler than these. There is the pain of hunger and thirst, and the pleasure of eating and drinking to remove them. There is the pain of sore eyes, and the pleasure of music. There is the pain of captious, unenlightening wrangling, and the pleasure of rational conversation with a friend, or of well-directed study in the search for and discovery of truth. But the passions matter much more to us, so I chose to cite them instead,

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instance in them, and show how the ideas we have of them are derived from sensation and reflection.

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and to show how the ideas we have of them are derived from sensation and reflection.

POWER

The idea of power comes from observing change, and most clearly from our own power to move and think.

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2.21.1 *This idea how got.*—The mind being every day informed, by the senses, of the alteration of those simple ideas it observes in things without, and taking notice how one comes to an end, and ceases to be, and another begins to exist which was not before: reflecting also on what passes within itself, and observing a constant change of its ideas, sometimes by the impression of outward objects on the senses, and sometimes by the determination of its own choice; and concluding from what it has so constantly observed to have been, that the like changes will for the future be made in the same things by like agents, and by the like ways; considers in one thing the possibility of having any of its simple ideas changed, and in another the possibility of making that change; and so comes by that idea which we call power.

Thus we say fire has a power to melt gold, *i. e.* to destroy the consistency of its insensible parts, and consequently its hardness, and make it fluid; and gold has a power to be melted; that the sun has a power to blanch wax, and wax a power to be blanched by the sun, whereby the yellowness is destroyed, and whiteness made to exist in its room.

In which and the like cases, the power we consider is in reference to the change of perceivable ideas; for we cannot observe any alteration to be made in, or operation upon, any thing, but by the observable change of its sensible ideas; nor conceive any alteration to be made, but by conceiving a change of some of its ideas.

2.21.2 *Power active and passive.*—Power, thus considered, is twofold, viz. as able to make, or able to receive, any change; the one may be called active, and the other passive power. Whether matter be not wholly destitute of active power, as its author, God, is truly above all passive power, and whether the intermediate state of created spirits be not that alone which is capable of both active

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How this idea is got.—Every day the senses inform the mind of changes in the simple ideas it observes in things outside it. The mind notices how one comes to an end and ceases to be, and another begins to exist that was not there before. It also reflects on what passes within itself, and observes a constant change of its ideas, sometimes through the impression of outward objects on the senses, and sometimes through the determination of its own choice. From what it has so constantly observed to have happened, it concludes that similar changes will in future be made in the same things, by similar agents and in similar ways. So it considers, in one thing, the possibility of having some of its simple ideas changed, and in another, the possibility of making that change. In this way it comes by the idea we call power.

Thus we say that fire has a power to melt gold, that is, to destroy the cohesion of its insensible parts, and consequently its hardness, and make it fluid. And we say that gold has a power to be melted. We also say that the sun has a power to bleach wax, and wax a power to be bleached by the sun, so that its yellowness is destroyed and whiteness is made to exist in its place.

In these and similar cases, the power we consider is related to the change of perceivable ideas. We can observe an alteration made in something, or an operation on it, only through the observable change of its sensible ideas. Nor can we conceive any alteration being made except by conceiving a change in some of its ideas.

Power, active and passive.—Power considered in this way is twofold: namely, the ability to make some change, or the ability to receive it. The one may be called active power, the other passive power. It may be worth considering whether matter is not wholly without active power, just as its author, God, is truly above all passive power. It may also be worth considering whether the intermediate

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and passive power, may be worth consideration. I shall not now enter into that inquiry; my present business being not to search into the original of power, but how we come by the idea of it.

But since active powers make so great a part of our complex ideas of natural substances (as we shall see hereafter,) and I mention them as such, according to common apprehension; yet they being not perhaps so truly active powers, as our hasty thoughts are apt to represent them, I judge it not amiss, by this intimation, to direct our minds to the consideration of God and spirits, for the clearest idea of active powers.

2.21.3 *Power includes relation.*—I confess power includes in it some kind of relation (a relation to action or change,) as indeed which of our ideas, of what kind soever, when attentively considered, does not? For our ideas of extension, duration, and number, do they not all contain in them a secret relation of the parts? Figure and motion have something relative in them much more visibly: and sensible qualities, as colours and smells, &c. what are they but the powers of different bodies, in relation to our perception? &c. And if considered in the things themselves, do they not depend on the bulk, figure, texture, and motion of the parts? all which include some kind of relation in them.

Our idea, therefore, of power, I think, may well have a place among other simple ideas, and be considered as one of them, being one of those that make a principal ingredient in our complex ideas of substances, as we shall hereafter have occasion to observe.

2.21.4 *The clearest idea of active power had from spirit.*—We are abundantly furnished with the idea of passive power by almost all sorts of sensible things. In most of them we cannot avoid observing their sensible qualities, nay, their very substances, to be in a continual flux: and therefore with reason we look on them as liable still to the same change. Nor have we of active power (which is the more proper signification of the word power) fewer instances: since whatever change is observed, the mind must collect a power somewhere able to make that change, as well as a possibility in the thing itself to receive it.

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state of created spirits is not the only one capable of both active and passive power. I shall not enter into that inquiry now. My present business is not to search into the origin of power, but into how we come by the idea of it.

Active powers make up so large a part of our complex ideas of natural substances (as we shall see later) that I mention them as such, following common understanding. Yet perhaps they are not so truly active powers as our hasty thoughts tend to represent them. So I think it not amiss, by this hint, to direct our minds to the consideration of God and spirits for the clearest idea of active powers.

Power includes relation.—I admit that power includes some kind of relation in it, a relation to action or change. But which of our ideas, of whatever kind, does not, when attentively considered? For do not our ideas of extension, duration, and number all contain a hidden relation of the parts? Shape and motion have something relative in them much more visibly. And what are sensible qualities, such as colors and smells, but the powers of different bodies in relation to our perception? And so on. If they are considered in the things themselves, do they not depend on the bulk, shape, texture, and motion of the parts? All of these include some kind of relation in them.

So our idea of power, I think, may well have a place among the other simple ideas and be considered one of them. It is one of those that make up a principal ingredient in our complex ideas of substances, as we shall have occasion to observe later.

The clearest idea of active power is had from spirit.—Almost every sort of sensible thing supplies us abundantly with the idea of passive power. In most of them we cannot help observing that their sensible qualities, and even their very substances, are in continual flux. So we reasonably regard them as always liable to the same change. Nor do we have fewer instances of active power, which is the more proper meaning of the word "power." For whenever a change is observed, the mind must infer a power somewhere able to make that change, as well as a possibility in the thing itself to receive it.

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But yet, if we will consider it attentively, bodies, by our senses, do not afford us so clear and distinct an idea of active power as we have from reflection on the operations of our minds. For all power relating to action, and there being but two sorts of action whereof we have any idea, viz. thinking and motion,—let us consider whence we have the clearest ideas of the powers which produce these actions. 1. Of thinking, body affords us no idea at all: it is only from reflection that we have that. 2. Neither have we from body any idea of the beginning of motion.

A body at rest affords us no idea of any active power to move; and when it is set in motion itself, that motion is rather a passion than an action in it. For when the ball obeys the stroke of a billiard-stick, it is not any action of the ball, but bare passion: also, when by impulse it sets another ball in motion that lay in its way, it only communicates the motion it had received from another, and loses in itself so much as the other received: which gives us but a very obscure idea of an active power of moving in body, whilst we observe it only to transfer, but not produce, any motion.

For it is but a very obscure idea of power, which reaches not the production of the action, but the continuation of the passion. For so is motion in a body impelled by another; the continuation of the alteration made in it from rest to motion being little more an action than the continuation of the alteration of its figure by the same blow, is an action. The idea of the beginning of motion we have only from reflection on what passes in ourselves, where we find by experience, that barely by willing it, barely by a thought of the mind, we can move the parts of our bodies which were before at rest.

So that it seems to me, we have, from the observation of the operation of bodies by our senses, but a very imperfect obscure idea of active power, since they afford us not any idea in themselves of the power to begin any action, either motion or thought.

But if, from the impulse bodies are observed to make one upon another, any one thinks he has a clear idea of power, it serves as well to my

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But if we consider it attentively, bodies, through our senses, do not give us so clear and distinct an idea of active power as we get from reflection on the operations of our minds. All power relates to action, and there are only two sorts of action of which we have any idea, namely thinking and motion. So let us consider where we get the clearest ideas of the powers that produce these actions. 1. Of thinking, body gives us no idea at all. We have that only from reflection. 2. Nor do we get from body any idea of the beginning of motion.

A body at rest gives us no idea of any active power to move. And when it is itself set in motion, that motion is a passion in it rather than an action. For when the ball obeys the stroke of a billiard cue, this is not any action of the ball but mere passion. Also, when by impact it sets in motion another ball lying in its way, it only passes on the motion it had received from another, and it loses as much itself as the other receives. This gives us only a very obscure idea of an active power of moving in body, since we observe body only transferring motion, not producing it.[40]

For an idea of power that does not reach the production of the action, but only the continuation of the passion, is a very obscure one. And that is what motion is in a body pushed by another. The continuation of the change made in it from rest to motion is hardly more an action than the continuation of the change in its shape made by the same blow. We have the idea of the beginning of motion only from reflection on what passes in ourselves. There we find by experience that merely by willing it, merely by a thought of the mind, we can move parts of our bodies that were previously at rest.

So it seems to me that when we observe the operation of bodies by our senses, we get only a very imperfect, obscure idea of active power. Bodies in themselves do not give us any idea of the power to begin any action, whether motion or thought.

But suppose someone thinks he has a clear idea of power from the impact that bodies are observed to make on one another. That serves my purpose just

40 "Passion" here has its old philosophical sense: being acted upon, the opposite of action.

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purpose, sensation being one of those ways whereby the mind comes by its ideas: only I thought it worth while to consider here, by the way, whether the mind doth not receive its idea of active power clearer from reflection on its own operations than it doth from any external sensation.

2.21.5 *Will and understanding two powers.*—This at least I think evident, that we find in ourselves a power to begin or forbear, continue or end several actions of our minds, and motions of our bodies, barely by a thought or preference of the mind ordering, or, as it were, commanding the doing or not doing such or such a particular action. This power which the mind has thus to order the consideration of any idea, or the forbearing to consider it; or to prefer the motion of any part of the body to its rest, and vice versa, in any particular instance: is that which we call the will.

The actual exercise of that power, by directing any particular action, or its forbearance, is that which we call volition or willing. The forbearance of that action, consequent to such order or command of the mind, is called voluntary. And whatsoever action is performed without such a thought of the mind, is called involuntary. The power of perception is that which we call the understanding. Perception, which we make the act of the understanding, is of three sorts: 1. The perception of ideas in our minds. 2. The perception of the signification of signs. 3. The perception of the connexion or repugnancy, agreement or disagreement, that there is between any of our ideas.

All these are attributed to the understanding, or perceptive power, though it be the two latter only that use allows us to say we understand.

2.21.6 *Faculty.*—These powers of the mind, viz. of perceiving, and of preferring, are usually called by another name: and the ordinary way of speaking is, that the understanding and will are two faculties of the mind; a word proper enough, if it be used as all words should be, so as not to breed any confusion in men's thoughts, by being supposed (as I suspect it has been) to stand for some real beings in the soul, that performed those actions of understanding and volition.

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as well, since sensation is one of the ways by which the mind comes by its ideas. I only thought it worthwhile to consider here, in passing, whether the mind does not receive its idea of active power more clearly from reflection on its own operations than from any external sensation.

Will and understanding are two powers.—This at least I think is evident. We find in ourselves a power to begin or forbear, continue or end, various actions of our minds and motions of our bodies. We do this merely by a thought or preference of the mind that orders, or as it were commands, the doing or not doing of this or that particular action. The mind has this power to order the consideration of some idea, or the forbearing to consider it. It also has the power to prefer the motion of some part of the body to its rest, and vice versa, in any particular instance. This power is what we call the will.

The actual exercise of that power, by directing some particular action or its forbearance, is what we call volition or willing. The forbearance of that action, following on such an order or command of the mind, is called voluntary. And any action performed without such a thought of the mind is called involuntary. The power of perception is what we call the understanding. Perception, which we take to be the act of the understanding, is of three sorts: 1. The perception of ideas in our minds. 2. The perception of the meaning of signs. 3. The perception of the connection or incompatibility, agreement or disagreement, that there is between any of our ideas.

All these are attributed to the understanding, or perceptive power, though ordinary usage allows us to say we understand only in the case of the last two.

Faculty.—These powers of the mind, namely perceiving and preferring, are usually called by another name. The ordinary way of speaking is that the understanding and the will are two faculties of the mind. This is a proper enough word, if it is used as all words should be. It must not breed confusion in people's thoughts by being taken, as I suspect it has been, to stand for some real beings in the soul that performed those actions of understanding and volition.

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For when we say the will is the commanding and superior faculty of the soul; that it is, or is not free; that it determines the inferior faculties; that it follows the dictates of the understanding, &c.; though these, and the like expressions, by those that carefully attend to their own ideas, and conduct their thoughts more by the evidence of things than the sound of words, may be understood in a clear and distinct sense; yet I suspect, I say, that this way of speaking of faculties has misled many into a confused notion of so many distinct agents in us, which had their several provinces and authorities, and did command, obey, and perform several actions, as so many distinct beings: which has been no small occasion of wrangling, obscurity, and uncertainty in questions relating to them.

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For we say that the will is the commanding and superior faculty of the soul, that it is or is not free, that it determines the inferior faculties, that it follows the dictates of the understanding, and so on. These and similar expressions may be understood in a clear and distinct sense by those who pay careful attention to their own ideas and conduct their thoughts more by the evidence of things than by the sound of words. Yet I suspect, I say, that this way of speaking of faculties has misled many into a confused notion of so many distinct agents in us. They take these agents to have their separate provinces and authorities, and to command, obey, and perform different actions, as so many distinct beings. This has been no small cause of wrangling, obscurity, and uncertainty in questions relating to them.

LIBERTY AND NECESSITY

Liberty is a power to act or forbear as the mind prefers, and belongs to agents, not wills.

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2.21.7 *Whence the ideas of liberty and necessity.*—Every one, I think, finds in himself a power to begin or forbear, continue or put an end to several actions in himself. From the consideration of the extent of this power of the mind over the actions of the man, which every one finds in himself, arise the ideas of liberty and necessity.

2.21.8 *Liberty, what.*—All the actions that we have any idea of reducing themselves, as has been said, to these two, viz. thinking and motion; so far as a man has power to think, or not to think, to move, or not to move, according to the preference or direction of his own mind: so far is a man free. Wherever any performance or forbearance are not equally in a man's power; wherever doing or not doing will not equally follow upon the preference of his mind directing it; there he is not free, though perhaps the action may be voluntary.

So that the idea of liberty is the idea of a power in any agent to do or forbear any particular action, according to the determination or thought of the mind, whereby either of them is preferred to the other: where either of them is not in the power of the agent to be produced by him, according to his volition, there he is not at liberty; that agent is under necessity. So that liberty cannot be where

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Where the ideas of liberty and necessity come from.—Everyone, I think, finds in himself a power to begin or forbear, continue or put an end to, various actions in himself. Everyone finds that this power of the mind over the man's actions has a certain extent, and from considering that extent arise the ideas of liberty and necessity.

What liberty is.—All the actions we have any idea of come down, as has been said, to these two, namely thinking and motion. A man has the power to think or not to think, to move or not to move, according to the preference or direction of his own mind, and so far as he has this power, so far is he free. Sometimes doing and forbearing are not equally in a man's power, and doing or not doing will not equally follow on the preference of his mind directing it. Wherever this is so, he is not free, though the action may perhaps be voluntary.

So the idea of liberty is the idea of a power in an agent to do or forbear some particular action, according to the determination or thought of the mind by which one of them is preferred to the other. Where the agent does not have the power to produce either of them according to his volition, there he is not at liberty; that agent is under necessity. So liberty cannot exist where there is no

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there is no thought, no volition, no will; but there may be thought, there may be will, there may be volition, where there is no liberty. A little consideration of an obvious instance or two may make this clear.

2.21.9 *Supposes the understanding and will.*—A tennis-ball, whether in motion by the stroke of a racket, or lying still at rest, is not by any one taken to be a free agent. If we inquire into the reason, we shall find it is because we conceive not a tennis-ball to think, and consequently not to have any volition, or preference of motion to rest, or vice versa; and therefore has not liberty, is not a free agent; but all its both motion and rest come under our idea of necessary, and are so called. Likewise, a man falling into the water, (a bridge breaking under him) has not herein liberty, is not a free agent.

For though he has volition, though he prefers his not falling to falling, yet the forbearance of that motion not being in his power, the stop or cessation of that motion follows not upon his volition; and therefore therein he is not free. So a man striking himself or his friend, by a convulsive motion of his arm, which it is not in his power, by volition, or the direction of his mind, to stop, or forbear, nobody thinks he has in this liberty; every one pities him, as acting by necessity and constraint.

2.21.10 *Belongs not to volition.*—Again, suppose a man be carried, while fast asleep, into a room, where is a person he longs to see and speak with, and be there locked fast in, beyond his power to get out, he awakes, and is glad to find himself in so desirable company, which he stays willingly in, *i. e.* prefers his stay to going away; I ask, is not this stay voluntary? I think nobody will doubt it; and yet, being locked fast in, it is evident he is not at liberty not to stay, he has not freedom to be gone.

So that liberty is not an idea belonging to volition, or preferring; but to the person having the power of doing, or forbearing to do, according as the mind shall choose or direct. Our idea of liberty reaches as far as that power, and no farther. For wherever restraint comes to check that power, or compulsion takes away that indifferency of ability on either side to act, or to forbear acting, there liberty, and our notion of it, presently ceases.

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thought, no volition, no will. But there may be thought, there may be will, there may be volition, where there is no liberty. A little consideration of an obvious instance or two may make this clear.

Supposes the understanding and will.—No one takes a tennis ball to be a free agent, whether it is moving from the stroke of a racket or lying still at rest. If we ask why, we will find it is because we do not conceive a tennis ball to think. So we do not conceive it to have any volition, or any preference of motion to rest, or the reverse. It therefore does not have liberty; it is not a free agent. Both its motion and its rest fall under our idea of necessary, and are called so. Likewise, a man who falls into the water (because a bridge breaks under him) does not have liberty in this; he is not a free agent.

For though he has volition, and prefers not falling to falling, the forbearance of that motion is not in his power. The stopping or ceasing of that motion does not follow his volition, and so in this he is not free. In the same way, suppose a man strikes himself or his friend through a convulsive motion of his arm, which it is not in his power to stop or forbear by volition or by the direction of his mind. Nobody thinks he has liberty in this. Everyone pities him, as acting by necessity and constraint.

Belongs not to volition.—Again, suppose a man is carried, while fast asleep, into a room where there is a person he longs to see and speak with. He is locked in there, with no power to get out. He wakes up and is glad to find himself in such desirable company, and he stays there willingly; that is, he prefers staying to going away. I ask: is not this staying voluntary? I think nobody will doubt it. And yet, since he is locked in, it is evident that he is not at liberty not to stay; he does not have the freedom to leave.

So liberty is not an idea that belongs to volition, or preferring. It belongs to the person who has the power of doing, or forbearing to do, as the mind chooses or directs. Our idea of liberty reaches as far as that power, and no farther. Wherever restraint comes in to check that power, or compulsion takes away that indifference of ability, the equal ability to act or to forbear acting, there liberty, and our notion of it, immediately ceases.

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2.21.11 *Voluntary opposed to involuntary, not to necessary.*—We have instances enough, and often more than enough, in our own bodies. A man's heart beats, and the blood circulates, which it is not in his power, by any thought or volition to stop; and therefore in respect to these motions, where rest depends not on his choice, nor would follow the determination of his mind, if it should prefer it, he is not a free agent.

Convulsive motions agitate his legs, so that, though he wills it ever so much, he cannot, by any power of his mind, stop their motion, (as in that odd disease called *Chorea Sancti viti*,) but he is perpetually dancing: he is not at liberty in this action, but under as much necessity of moving as a stone that falls, or a tennis-ball struck with a racket. On the other side, a palsy or the stocks hinder his legs from obeying the determination of his mind, if it would thereby transfer his body to another place. In all these there is want of freedom; though the sitting still even of a paralytic, whilst he prefers it to a removal, is truly voluntary.

Voluntary then is not opposed to necessary, but to involuntary. For a man may prefer what he can do to what he cannot do; the state he is in to its absence or change, though necessity has made it in itself unalterable.

2.21.12 *Liberty, what.*—As it is in the motions of the body, so it is in the thoughts of our minds: where any one is such that we have power to take it up, or lay it by, according to the preference of the mind, there we are at liberty.

A waking man being under the necessity of having some ideas constantly in his mind, is not at liberty to think or not to think, no more than he is at liberty, whether his body shall touch any other or no; but whether he will remove his contemplation from one idea to another is many times in his choice; and then he is, in respect of his ideas, as much at liberty as he is in respect of bodies he rests on: he can at pleasure remove himself from one to another. But yet some ideas to the mind, like some motions to the body, are such as in certain circumstances it cannot avoid, nor obtain their absence by the utmost effort it can use.

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Voluntary opposed to involuntary, not to necessary.—We have examples enough, and often more than enough, in our own bodies. A man's heart beats and his blood circulates, and it is not in his power to stop them by any thought or volition. With respect to these motions, then, he is not a free agent, since rest does not depend on his choice and would not follow the determination of his mind even if it preferred rest.

Suppose convulsive motions shake his legs, so that however much he wills it, he cannot stop their motion by any power of his mind (as in that odd disease called *Chorea Sancti viti*, St. Vitus's dance), and he is perpetually dancing. He is not at liberty in this action. He is under as much necessity of moving as a falling stone, or a tennis ball struck with a racket. On the other hand, a palsy or the stocks may prevent his legs from obeying the determination of his mind, if it wanted to move his body to another place by means of them. In all these cases there is a lack of freedom. Yet the sitting still even of a paralyzed man, as long as he prefers it to moving, is truly voluntary.

So voluntary is not opposed to necessary, but to involuntary. A man may prefer what he can do to what he cannot do. He may prefer the state he is in to its absence or its change, even though necessity has made that state unalterable in itself.

Liberty, what.—As it is with the motions of the body, so it is with the thoughts of our minds. Where any thought is such that we have power to take it up or lay it aside, according to the preference of the mind, there we are at liberty.

A waking man is under the necessity of constantly having some ideas in his mind. So he is not at liberty to think or not to think, any more than he is at liberty whether his body shall touch some other body or not. But whether he will move his attention from one idea to another is often in his choice. He is then as much at liberty with respect to his ideas as he is with respect to the bodies he rests on: he can move himself from one to another as he pleases. Still, some ideas are to the mind as some motions are to the body. In certain circumstances the mind cannot avoid them, nor get rid of them by the utmost effort it can make.

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A man on the rack is not at liberty to lay by the idea of pain, and divert himself with other contemplations: and sometimes a boisterous passion hurries our thoughts, as a hurricane does our bodies, without leaving us the liberty of thinking on other things, which we would rather choose. But as soon as the mind regains the power to stop or continue, begin or forbear, any of these motions of the body without, or thoughts within, according as it thinks fit to prefer either to the other, we then consider the man as a free agent again.

2.21.13 *Necessity, what.*—Wherever thought is wholly wanting, or the power to act or forbear according to the direction of thought; there necessity takes place. This in an agent capable of volition, when the beginning or continuation of any action is contrary to that preference of his mind, is called compulsion; when the hindering or stopping any action is contrary to his volition, it is called restraint. Agents that have no thought, no volition at all, are in every thing necessary agents.

2.21.14 *Liberty belongs not to the will.*—If this be so (as I imagine it is) I leave it to be considered whether it may not help to put an end to that long agitated, and I think unreasonable, because unintelligible, question, viz. whether man's will be free or no? For, if I mistake not, it follows, from what I have said, that the question itself is altogether improper; and it is as insignificant to ask, whether man's will be free, as to ask whether his sleep be swift, or his virtue square; liberty being as little applicable to the will as swiftness of motion is to sleep, or squareness to virtue.

Every one would laugh at the absurdity of such a question as either of these; because it is obvious that the modifications of motion belong not to sleep, nor the difference of figure to virtue; and when any one well considers it, I think he will as plainly perceive that liberty, which is but a power, belongs only to agents, and cannot be an attribute or modification of the will, which is also but a power.

2.21.15 *Volition.*—Such is the difficulty of explaining and giving clear notions of internal actions, by sounds, that I must here warn my reader that ordering, directing, choosing, preferring, &c.

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A man on the rack is not at liberty to lay aside the idea of pain and amuse himself with other thoughts. And sometimes a violent passion hurries our thoughts along, as a hurricane does our bodies, without leaving us the liberty of thinking about other things we would rather choose. But the mind may regain the power to stop or continue, begin or forbear, any of these motions of the body without, or thoughts within, as it sees fit to prefer one to the other. As soon as it does, we consider the man a free agent again.

Necessity, what.—Wherever thought is wholly lacking, or the power to act or forbear according to the direction of thought is lacking, there necessity takes over. Take an agent capable of volition. When the beginning or continuing of an action is contrary to that preference of his mind, this is called compulsion. When the hindering or stopping of an action is contrary to his volition, it is called restraint. Agents that have no thought and no volition at all are necessary agents in everything.

Liberty belongs not to the will.—If this is so (as I believe it is), I leave it to be considered whether it may help to end that long-debated question: namely, whether man's will is free or not. I think the question is unreasonable, because it is unintelligible. If I am not mistaken, it follows from what I have said that the question itself is altogether improper. It is as meaningless to ask whether a man's will is free as to ask whether his sleep is swift or his virtue square. Liberty applies as little to the will as swiftness of motion does to sleep, or squareness to virtue.

Everyone would laugh at the absurdity of either of these questions, because it is obvious that the modifications of motion do not belong to sleep, nor differences of shape to virtue. Anyone who considers it carefully will, I think, see just as plainly that liberty belongs only to agents. Liberty is only a power, and it cannot be an attribute or modification of the will, which is also only a power.

Volition.—It is so hard to explain internal actions and give clear notions of them by means of sounds that I must warn my reader here. The words order-

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which I have made use of, will not distinctly enough express volition, unless he will reflect on what he himself does when he wills. For example, preferring, which seems perhaps best to express the act of volition, does it not precisely. For though a man would prefer flying to walking, yet who can say he ever wills it? Volition, it is plain, is an act of the mind knowingly exerting that dominion it takes itself to have over any part of the man, by employing it in, or withholding it from, any particular action.

And what is the will, but the faculty to do this? And is that faculty any thing more in effect than power, the power of the mind to determine its thoughts, to the producing, continuing, or stopping any action, as far as it depends on us? For can it be denied, that whatever agent has a power to think on its own actions, and to prefer their doing or omission, either to other, has that faculty called will? Will then is nothing but such a power.

Liberty, on the other side, is the power a man has to do or forbear doing any particular action, according as its doing or forbearance has the actual preference in the mind; which is the same thing as to say, according as he himself wills it.

2.21.16 *Powers belonging to agents.*—It is plain, then, that the will is nothing but one power or ability, and freedom another power or ability; so that to ask, whether the will has freedom, is to ask whether one power has another power, one ability another ability? a question at first sight too grossly absurd to make a dispute, or need an answer. For who is it that sees not that powers belong only to agents, and are attributes only of substances, and not of powers themselves? So that this way of putting the question, viz. whether the will be free? is in effect to ask, whether the will be a substance, an agent?

or at least to suppose it, since freedom can properly be attributed to nothing else. If freedom can with any propriety of speech be applied to power, it may be attributed to the power that is in a man to produce or forbear producing motion in parts of his body, by choice or preference; which is that which denominates him free, and is freedom itself. But if any one should ask whether freedom were free, he would be suspected not to

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ing, directing, choosing, preferring, etc., which I have used, will not express volition distinctly enough unless he reflects on what he himself does when he wills. For example, preferring perhaps seems best to express the act of volition, but it does not express it precisely. A man would prefer flying to walking, but who can say he ever wills it? Volition, it is plain, is an act of the mind knowingly exerting the dominion it takes itself to have over any part of the man. It does this by employing that part in some particular action, or by withholding it from that action.

And what is the will but the faculty of doing this? And is that faculty in effect anything more than a power, the power of the mind to determine its thoughts toward producing, continuing, or stopping any action, so far as this depends on us? Can it be denied that any agent with a power to think about its own actions, and to prefer doing them or omitting them, has the faculty called will? Will, then, is nothing but such a power.

Liberty, on the other hand, is the power a man has to do or forbear doing any particular action, according as its doing or its forbearance has the actual preference in the mind. That is the same as saying: according as he himself wills it.

Powers belonging to agents.—It is plain, then, that the will is nothing but one power or ability, and freedom another power or ability. So to ask whether the will has freedom is to ask whether one power has another power, one ability another ability. At first sight the question is too grossly absurd to dispute or to need an answer. Who does not see that powers belong only to agents, and are attributes only of substances, not of powers themselves? So this way of putting the question, namely, whether the will is free, is in effect to ask whether the will is a substance, an agent,

or at least to presuppose that it is, since freedom cannot properly be attributed to anything else. If freedom can be applied to a power with any propriety of speech at all, it may be attributed to the power a man has to produce, or forbear producing, motion in parts of his body by choice or preference. This is what makes him be called free, and it is freedom itself. But anyone who asked whether freedom was free would be suspected of not un-

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understand well what he said; and he would be thought to deserve Midas's ears, who, knowing that rich was a denomination for the possession of riches, should demand whether riches themselves were rich.

2.21.17 However, the name faculty, which men have given to this power called the will, and whereby they have been led into a way of talking of the will as acting, may, by an appropriation that disguises its true sense, serve a little to palliate the absurdity; yet the will in truth signifies nothing but a power, or ability, to prefer or choose: and when the will, under the name of a faculty, is considered, as it is, barely as an ability to do something, the absurdity in saying it is free, or not free, will easily discover itself.

For if it be reasonable to suppose and talk of faculties as distinct beings that can act (as we do, when we say the will orders, and the will is free,) it is fit that we should make a speaking faculty, and a walking faculty, and a dancing faculty, by which those actions are produced which are but several modes of motion; as well as we make the will and understanding to be faculties, by which the actions of choosing and perceiving are produced, which are but several modes of thinking;

and, we may as properly say, that it is the singing faculty sings, and the dancing faculty dances; as that the will chooses, or that the understanding conceives; or as is usual, that the will directs the understanding, or the understanding obeys or obeys not the will: it being altogether as proper and intelligible to say, that the power of speaking directs the power of singing, or the power of singing obeys or disobeys the power of speaking.

2.21.18 This way of talking, nevertheless, has prevailed, and, as I guess, produced great confusion. For these being all different powers in the mind, or in the man, to do several actions, he exerts them as he thinks fit: but the power to do one action is not operated on by the power of doing another action.

For the power of thinking operates not on the power of choosing, nor the power of choosing on the power of thinking; no more than the power of

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derstanding well what he was saying. It would be like a man who knows that "rich" is a name for the possession of riches, and then asks whether riches themselves are rich. He would be thought to deserve Midas's ears.[41]

Men have given the name faculty to this power called the will, and this has led them into a way of talking about the will as acting. The name may soften the absurdity a little, by a usage that disguises its true sense. Yet in truth the will signifies nothing but a power or ability to prefer or choose. Consider the will, under the name of a faculty, as what it is: simply an ability to do something. Then the absurdity of saying it is free, or not free, will easily show itself.

Suppose it is reasonable to treat faculties as distinct beings that can act, and to talk of them that way (as we do when we say the will orders, and the will is free). Then we ought to make a speaking faculty, a walking faculty, and a dancing faculty, by which those actions are produced, though they are only different modes of motion. That is just what we do when we make the will and the understanding faculties by which the actions of choosing and perceiving are produced, though these are only different modes of thinking.

And we may as properly say that it is the singing faculty that sings and the dancing faculty that dances, as that the will chooses or the understanding conceives. It is equally proper to say, as people usually do, that the will directs the understanding, or that the understanding obeys or does not obey the will. It would be exactly as proper and intelligible to say that the power of speaking directs the power of singing, or that the power of singing obeys or disobeys the power of speaking.

Nevertheless this way of talking has prevailed and, I suspect, has produced great confusion. These are all different powers in the mind, or in the man, to do various actions, and he exerts them as he sees fit. But the power to do one action is not acted upon by the power of doing another action.

The power of thinking does not operate on the power of choosing, nor the power of choosing on the power of thinking. No more does the power of

41 In Ovid's *Metamorphoses* (Book 11), Apollo gave King Midas the ears of an ass for his foolish judgment in a musical contest.

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dancing operates on the power of singing, or the power of singing on the power of dancing; as any one, who reflects on it, will easily perceive: and yet this is it which we say, when we thus speak, that the will operates on the understanding, or the understanding on the will.

2.21.19 I grant, that this or that actual thought may be the occasion of volition, or exercising the power a man has to choose; or the actual choice of the mind, the cause of actual thinking on this or that thing: as the actual singing of such a tune may be the cause of dancing such a dance; and the actual dancing of such a dance, the occasion of singing such a tune. But in all these it is not one power that operates on another; but it is the mind that operates, and exerts these powers; it is the man that does the action; it is the agent that has power, or is able to do.

For powers are relations, not agents: and that which has the power or not the power to operate, is that alone which is or is not free, and not the power itself. For freedom, or not freedom, can belong to nothing but what has or has not a power to act.

2.21.20 *Liberty belongs not to the will.*—The attributing to faculties that which belonged not to them, has given occasion to this way of talking: but the introducing into discourses concerning the mind, with the name of faculties, a notion of their operating, has, I suppose, as little advanced our knowledge in that part of ourselves, as the great use and mention of the like invention of faculties, in the operations of the body, has helped us in the knowledge of physic. Not that I deny there are faculties, both in the body and mind: they both of them have their powers of operating, else neither the one nor the other could operate.

For nothing can operate that is not able to operate; and that is not able to operate that has no power to operate. Nor do I deny, that those words, and the like, are to have their place in the common use of languages, that have made them current. It looks like too much affectation wholly to lay them by: and philosophy itself, though it likes not a gaudy dress, yet when it appears in public, must have so much complacency as to be clothed in the ordinary fashion and language of the country, so far as it can consist with truth and

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dancing operate on the power of singing, or the power of singing on the power of dancing, as anyone who reflects on it will easily see. And yet this is what we are saying when we talk of the will operating on the understanding, or the understanding on the will.

I grant that this or that actual thought may be the occasion of volition, that is, of exercising the power a man has to choose. I grant too that the actual choice of the mind may be the cause of actually thinking about this or that thing. In the same way, actually singing a certain tune may be the cause of dancing a certain dance, and actually dancing a certain dance the occasion of singing a certain tune. But in all these cases it is not one power that operates on another. It is the mind that operates and exerts these powers. It is the man that does the action. It is the agent that has power, or is able to do.

For powers are relations, not agents. Only that which has or lacks the power to operate is or is not free, not the power itself. Freedom, or the lack of it, can belong only to what has or does not have a power to act.

Liberty belongs not to the will.—This way of talking arose from attributing to faculties what did not belong to them. The name of faculties brought into discussions of the mind a notion of their operating. That notion has, I suppose, advanced our knowledge of that part of ourselves as little as the same sort of invented faculties, so much used and mentioned in the operations of the body, have helped our knowledge of medicine. I do not deny that there are faculties, both in the body and in the mind. Both have their powers of operating, or else neither could operate.

For nothing can operate that is not able to operate, and nothing is able to operate that has no power to operate. Nor do I deny that those words, and others like them, should keep their place in the common usage of the languages that have made them current. It would look like too much affectation to give them up altogether. Philosophy itself does not like gaudy dress. Yet when it appears in public, it must be obliging enough to be clothed in the ordinary fashion and language of the country, so far

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perspicuity. But the fault has been, that faculties have been spoken of and represented as so many distinct agents.

For it being asked, what it was that digested the meat in our stomachs? it was a ready and very satisfactory answer, to say, that it was the digestive faculty. What was it that made any thing come out of the body? the expulsive faculty. What moved? the motive faculty. And so in the mind the intellectual faculty, or the understanding, understood; and the elective faculty, or the will, willed or commanded. This is, in short, to say, that the ability to digest, digested; and the ability to move, moved; and the ability to understand, understood.

For faculty, ability, and power, I think, are but different names of the same things: which ways of speaking, when put into more intelligible words, will, I think, amount to this much; that digestion is performed by something that is able to digest, motion by something able to move, and understanding by something able to understand. And in truth it would be very strange if it should be otherwise; as strange as it would be for a man to be free without being able to be free.

2.21.21 *But to the agent or man.*—To return then to the inquiry about liberty, I think the question is not proper, whether the will be free, but whether a man be free. Thus, I think,

1. That so far as any one can, by the direction or choice of his mind, preferring the existence of any action to the nonexistence of that action, and *vice versa*, make it to exist, or not exist; so far he is free.

For if I can, by a thought directing the motion of my finger, make it move when it was at rest, or vice versa, it is evident, that in respect of that I am free: and if I can, by a like thought of my mind, preferring one to the other, produce either words or silence, I am at liberty to speak or hold my peace; and as far as this power reaches, of acting, or not acting, by the determination of his own thoughts preferring either, so far a man is free. For how can we think any one freer than to have the power to do what he will?

And so far as any one can, by preferring any action to its not being, or rest to any action,

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as this is consistent with truth and clarity. The fault has been that faculties have been spoken of and represented as so many distinct agents.

Suppose someone asked what digested the food in our stomachs. It was a ready and very satisfactory answer to say that it was the digestive faculty. What made anything come out of the body? The expulsive faculty. What moved? The motive faculty. And so in the mind, the intellectual faculty, or the understanding, understood; and the elective faculty, or the will, willed or commanded. In short, this is to say that the ability to digest digested, the ability to move moved, and the ability to understand understood.

For faculty, ability, and power are, I think, just different names for the same things. Put into more intelligible words, these ways of speaking amount, I think, to this much. Digestion is performed by something that is able to digest, motion by something able to move, and understanding by something able to understand. And in truth it would be very strange if it were otherwise, as strange as it would be for a man to be free without being able to be free.

But to the agent or man.—To return, then, to the inquiry about liberty. I think the proper question is not whether the will is free, but whether a man is free. So I think,

1. That a man is free to the extent that he can, by the direction or choice of his mind, make an action exist or not exist, by preferring its existence to its nonexistence, or the reverse.

Suppose I can make my finger move when it was at rest, or the reverse, by a thought directing its motion. It is then evident that in that respect I am free. And suppose I can produce either words or silence by a similar thought of my mind preferring one to the other. Then I am at liberty to speak or hold my peace. A man is free as far as this power reaches, the power of acting or not acting by the determination of his own thoughts preferring one or the other. For how can we think anyone freer than to have the power to do what he will?

A man can do what he wills to the extent that he can produce an action, or rest, by preferring the

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produce that action or rest, so far can he do what he will. For such a preferring of action to its absence is the willing of it; and we can scarce tell how to imagine any being freer than to be able to do what he wills. So that in respect of actions within the reach of such a power in him, a man seems as free as it is possible for freedom to make him.

2.21.22 *In respect of willing a man is not free.*—But the inquisitive mind of man, willing to shift off from himself, as far as he can, all thoughts of guilt, though it be by putting himself into a worse state than that of fatal necessity, is not content with this: freedom, unless it reaches farther than this, will not serve the turn: and it passes for a good plea, that a man is not free at all, if he be not as free to will as he is to act what he wills. Concerning a man's liberty, there yet therefore is raised this farther question, whether a man be free to will?

which I think is what is meant, when it is disputed whether the will be free. And as to that I imagine,

2.21.23 —2. That willing, or volition, being an action, and freedom consisting in a power of acting or not acting, a man in respect of willing, or the act of volition, when any action in his power is once proposed to his thoughts as presently to be done, cannot be free. The reason whereof is very manifest: for it being unavoidable that the action depending on his will should exist or not exist; and its existence or not existence, following perfectly the determination and preference of his will; he cannot avoid willing the existence or not existence of that action; it is absolutely necessary that he will the one or the other; i.

e. prefer the one to the other: since one of them must necessarily follow: and that which does follow, follows by the choice and determination of his mind, that is, by his willing it: for if he did not will it, it would not be. So that in respect of the act of willing, a man in such a case is not free: liberty consisting in a power to act, or not to act; which in regard of volition, a man, upon such a proposal, has not.

For it is unavoidably necessary to prefer the doing or forbearance of an action in a man's power, which is once so proposed to his thoughts;

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action to its not being, or rest to the action. For such a preferring of an action to its absence is the willing of it. We can hardly tell how to imagine any being freer than to be able to do what it wills. So with respect to actions within the reach of such a power in him, a man seems as free as it is possible for freedom to make him.

In respect of willing a man is not free.—But the inquisitive mind of man wants to shift all thoughts of guilt off himself as far as he can, even if it means putting himself into a worse state than that of fatal necessity. So he is not content with this. Freedom will not serve the purpose unless it reaches farther than this. It passes for a good plea that a man is not free at all if he is not as free to will as he is to do what he wills. So a further question is raised about a man's liberty: is a man free to will?

This, I think, is what is meant when people dispute whether the will is free. And as to that, I think,

—2. That once some action in a man's power is proposed to his thoughts as something to be done right now, he cannot be free with respect to willing, or the act of volition. This is because willing, or volition, is an action, and freedom consists in a power of acting or not acting. The reason is very plain. The action depending on his will must unavoidably either exist or not exist, and its existence or nonexistence follows exactly the determination and preference of his will. So he cannot avoid willing either the existence or the nonexistence of that action. It is absolutely necessary that he will the one or the other, that is,

prefer the one to the other, since one of them must necessarily follow. The one that does follow, follows by the choice and determination of his mind, that is, by his willing it; for if he did not will it, it would not be. So in such a case a man is not free with respect to the act of willing. Liberty consists in a power to act or not to act, and once such a proposal is made, a man does not have that power with regard to volition.

Once an action in a man's power has been proposed to his thoughts in this way, it is unavoidably necessary to prefer either doing it or forbearing it.

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a man must necessarily will the one or the other of them, upon which preference or volition the action or its forbearance certainly follows, and is truly voluntary. But the act of volition, or preferring one of the two, being that which he cannot avoid, a man in respect of that act of willing is under a necessity, and so cannot be free; unless necessity and freedom can consist together, and a man can be free and bound at once.

2.21.24 This then is evident, that in all proposals of present action, a man is not at liberty to will or not to will, because he cannot forbear willing: liberty consisting in a power to act or to forbear acting, and in that only. For a man that sits still is said yet to be at liberty, because he can walk if he wills it. But if a man sitting still has not a power to remove himself, he is not at liberty; so likewise a man falling down a precipice, though in motion, is not at liberty, because he cannot stop that motion if he would.

This being so, it is plain that a man that is walking, to whom it is proposed to give off walking, is not at liberty whether he will determine himself to walk, or give off walking, or no: he must necessarily prefer one or the other of them, walking or not walking; and so it is in regard of all other actions in our power so proposed, which are the far greater number.

For considering the vast number of voluntary actions that succeed one another every moment that we are awake in the course of our lives, there are but few of them that are thought on, or proposed to the will till the time they are to be done; and in all such actions, as I have shown, the mind, in respect of willing, has not a power to act, or not to act, wherein consist liberty.

The mind in that case has not a power to forbear willing; it cannot avoid some determination concerning them, let the consideration be as short, the thought as quick, as it will; it either leaves the man in the state he was before thinking, or changes it; continues the action, or puts an end to it. Whereby it is manifest, that it orders and directs one, in preference to or with neglect of the other, and thereby either the continuation or change becomes unavoidably voluntary.

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A man must necessarily will one or the other of them. Upon that preference or volition, the action, or its forbearance, certainly follows and is truly voluntary. But the act of volition, or preferring one of the two, is something he cannot avoid. So a man is under necessity with respect to that act of willing, and cannot be free. The only escape would be if necessity and freedom could coexist, and a man could be free and bound at the same time.

This much, then, is evident: in all proposals of present action, a man is not at liberty to will or not to will, because he cannot forbear willing. Liberty consists in a power to act or to forbear acting, and in that alone. A man who sits still is still said to be at liberty, because he can walk if he wills it. But if a man sitting still does not have the power to move himself, he is not at liberty. Likewise a man falling down a precipice is in motion, but he is not at liberty, because he cannot stop that motion even if he wanted to.

This being so, take a man who is walking, and suppose it is proposed to him that he stop. It is plain that he is not at liberty whether or not he will determine himself to keep walking or to stop. He must necessarily prefer one or the other of them, walking or not walking. And it is the same with all other actions in our power that are proposed in this way, which are by far the greater number.

Consider the vast number of voluntary actions that follow one another every moment we are awake in the course of our lives. Only a few of them are thought about, or proposed to the will, before the time they are to be done. And in all such actions, as I have shown, the mind does not have, with respect to willing, a power to act or not to act, which is what liberty consists in.

In that case the mind has no power to forbear willing. It cannot avoid making some determination about them, however brief the consideration and however quick the thought. It either leaves the man in the state he was in before thinking, or changes it. It either continues the action or puts an end to it. From this it is plain that the mind orders and directs one in preference to the other, or with neglect of the other. In this way either the continuation or the change unavoidably becomes voluntary.

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2.21.25 *The will determined by something without it.*—Since then it is plain, that in most cases a man is not at liberty, whether he will will or no; the next thing demanded, is, whether a man be at liberty to will which of the two he pleases, motion or rest? This question carries the absurdity of it so manifestly in itself, that one might thereby sufficiently be convinced that liberty concerns not the will. For to ask, whether a man be at liberty to will either motion or rest, speaking or silence, which he pleases, is to ask, whether a man can will what he wills, or be pleased with what he is pleased with?

A question which, I think, needs no answer; and they who can make a question of it, must suppose one will to determine the acts of another, and another to determine that; and so on in infinitum.

2.21.26 To avoid these and the like absurdities, nothing can be of greater use, than to establish in our minds determined ideas of the things under consideration. If the ideas of liberty and volition were well fixed in our understandings, and carried along with us in our minds, as they ought, through all the questions that are raised about them, I suppose a great part of the difficulties that perplex men's thoughts, and entangle their understandings, would be much easier resolved, and we should perceive where the confused signification of terms, or where the nature of the thing caused the obscurity.

2.21.27 *Freedom.*—First, then, it is carefully to be remembered, that freedom consists in the dependence of the existence, or not existence of any action, upon our volition of it; and not in the dependence of any action, or its contrary, on our preference. A man standing on a cliff is at liberty to leap twenty yards downward into the sea, not because he has a power to do the contrary action, which is to leap twenty yards upwards, for that he cannot do; but he is therefore free, because he had a power to leap or not to leap.

But if a greater force than his either holds him fast or tumbles him down, he is no longer free in that case; because the doing or forbearance of that particular action is no longer in his power. He that is a close prisoner in a room twenty feet square, being at the north side of his chamber, is at liberty to walk twenty feet southward, because

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The will determined by something without it.—It is plain, then, that in most cases a man is not at liberty whether he will will or not. The next thing asked is whether a man is at liberty to will whichever of the two he pleases, motion or rest. This question carries its absurdity so plainly in itself that this alone might be enough to convince us that liberty has nothing to do with the will. To ask whether a man is at liberty to will whichever he pleases, motion or rest, speaking or silence, is to ask whether a man can will what he wills, or be pleased with what he is pleased with.

That question, I think, needs no answer. Those who can make a question of it must suppose one will to determine the acts of another, and another to determine that one, and so on to infinity.

To avoid these and similar absurdities, nothing can be more useful than to establish in our minds determinate ideas of the things under consideration. Suppose the ideas of liberty and volition were firmly fixed in our understandings, and carried along with us in our minds, as they should be, through all the questions raised about them. Then, I suppose, a great part of the difficulties that perplex men's thoughts and entangle their understandings would be much more easily resolved. We would also see where the obscurity was caused by the confused meaning of terms, and where by the nature of the thing itself.

Freedom.—First, then, it must be carefully remembered that freedom consists in the dependence of the existence or nonexistence of an action on our volition of it. It does not consist in the dependence of an action, or its contrary, on our preference. A man standing on a cliff is at liberty to leap twenty yards down into the sea. This is not because he has a power to do the contrary action, which is to leap twenty yards upward, for that he cannot do. He is free because he has a power to leap or not to leap.

But if a force greater than his either holds him fast or throws him down, he is no longer free in that case. Doing or forbearing that particular action is no longer in his power. Suppose a man is kept as a close prisoner in a room twenty feet square, and is standing at the north side of it. He is at liberty to walk twenty feet southward, because he can walk

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he can walk or not walk it; but is not, at the same time, at liberty to do the contrary, *i. e.* to walk twenty feet northward.

In this then consists freedom, viz. in our being able to act or not to act, according as we shall choose or will.

2.21.28 *Volition, what.*—Secondly, we must remember, that volition or willing is an act of the mind directing its thought to the production of any action, and thereby exerting its power to produce it. To avoid multiplying of words, I would crave leave here, under the word action, to comprehend the forbearance too of any action proposed; sitting still, or holding one's peace, when walking or speaking are proposed, though mere forbearances, requiring as much the determination of the will, and being as often weighty in their consequences as the contrary actions, may, on that consideration, well enough pass for actions too: but this I say, that I may not be mistaken, if for brevity sake I speak thus.

2.21.29 *What determines the will.*—Thirdly, the will being nothing but a power in the mind to direct the operative faculties of a man to motion or rest, as far as they depend on such direction; to the question, what is it determines the will? the true and proper answer is, the mind. For that which determines the general power of directing to this or that particular direction, is nothing but the agent itself exercising the power it has that particular way. If this answer satisfies not, it is plain the meaning of the question, what determines the will? is this, what moves the mind, in every particular instance, to determine its general power of directing to this or that particular motion or rest?

And to this I answer, the motive for continuing in the same state or action, is only the present satisfaction in it; the motive to change is always some uneasiness: nothing setting us upon the change of state, or upon any new action, but some uneasiness. This is the great motive that works on the mind to put it upon action, which for shortness sake we will call determining of the will; which I shall more at large explain.

2.21.30 *Will and desire must not be confounded.*—But in the way to it, it will be necessary to premise, that

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it or not walk it. But he is not at the same time at liberty to do the contrary, that is, to walk twenty feet northward.

Freedom, then, consists in this: namely, in our being able to act or not to act, according as we choose or will.

Volition, what.—Secondly, we must remember that volition or willing is an act of the mind directing its thought to the production of some action, and thereby exerting its power to produce it. To avoid multiplying words, I ask permission here to include under the word action the forbearance of any proposed action as well. Sitting still, or holding one's peace, when walking or speaking is proposed, are mere forbearances. But they require the determination of the will just as much as the contrary actions do, and their consequences are as often weighty. On that account they may well enough pass for actions too. I say this so that I will not be misunderstood if, for brevity's sake, I speak this way.

What determines the will.—Thirdly, the will is nothing but a power in the mind to direct the operative faculties of a man to motion or rest, so far as they depend on such direction. So the true and proper answer to the question, What is it that determines the will? is: the mind. What determines the general power of directing to this or that particular direction is nothing but the agent itself, exercising the power it has in that particular way. If this answer does not satisfy, the question What determines the will? plainly means this: What moves the mind, in each particular instance, to determine its general power of directing to this or that particular motion or rest?

And to this I answer: the motive for continuing in the same state or action is only the present satisfaction in it. The motive for change is always some uneasiness. Nothing sets us upon a change of state, or upon any new action, except some uneasiness. This is the great motive that works on the mind to put it into action. For brevity's sake we will call this determining the will, and I will explain it more fully.

Will and desire must not be confounded.—But on the way to that, I must first point out the following.

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though I have above endeavoured to express the act of volition by choosing, preferring, and the like terms, that signify desire as well as volition, for want of other words to mark that action of the mind, whose proper name is willing or volition; yet it being a very simple act, whosoever desires to understand what it is, will better find it by reflecting on his own mind, and observing what it does when it wills, than by any variety of articulate sounds whatsoever.

This caution of being careful not to be misled by expressions that do not enough keep up the difference between the will and several acts of the mind that are quite distinct from it, I think the more necessary; because I find the will often confounded with several of the affections, especially desire, and one put for the other; and that by men who would not willingly be thought not to have had very distinct notions of things, and not to have writ very clearly about them. This, I imagine, has been no small occasion of obscurity and mistake in this matter; and therefore is, as much as may be, to be avoided.

For he that shall turn his thoughts inwards upon what passes in his mind when he wills, shall see that the will or power of volition is conversant about nothing but that particular determination of the mind, whereby barely by a thought the mind endeavours to give rise, continuation, or stop, to any action which it takes to be in its power. This, well considered, plainly shows that the will is perfectly distinguished from desire; which in the very same action may have a quite contrary tendency from that which our will sets us upon. A man whom I cannot deny, may oblige me to use persuasions to another, which, at the same time I am speaking, I may wish may not prevail on him.

In this case, it is plain the will and desire run counter. I will the action that tends one way, whilst my desire tends another, and that the direct contrary way. A man who by a violent fit of the gout in his limbs finds a doziness in his head, or a want of appetite in his stomach removed, desires to be eased too of the pain of his feet or hands (for wherever there is pain there is a desire to be rid of it) though yet, whilst he apprehends that the removal of the pain may translate the noxious humour to a more vital part, his will is

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Above, I have tried to express the act of volition by choosing, preferring, and similar terms. These signify desire as well as volition, but I used them for lack of other words to mark that action of the mind whose proper name is willing or volition. Yet it is a very simple act. So anyone who wants to understand what it is will find it better by reflecting on his own mind, and observing what it does when it wills, than by any variety of articulate sounds whatever.

Some expressions do not sufficiently preserve the difference between the will and various acts of the mind that are quite distinct from it. I think this caution about not being misled by them is all the more necessary, because I find the will often confused with several of the affections, especially desire, and the one put for the other. This is done even by men who would not like to be thought to have lacked very distinct notions of things, or to have written unclearly about them. This, I suspect, has been no small cause of obscurity and error in this matter, and so it should be avoided as far as possible.

Let anyone turn his thoughts inward to what passes in his mind when he wills. He will see that the will, or power of volition, is concerned with nothing but that particular determination of the mind by which, simply by a thought, the mind tries to start, continue, or stop some action that it takes to be in its power. Well considered, this plainly shows that the will is perfectly distinct from desire. In the very same action, desire may have a tendency quite contrary to the one our will sets us on. A man I cannot refuse may oblige me to use arguments to persuade someone else. At the very time I am speaking, I may wish that they will not prevail on him.

In this case it is plain that the will and desire run counter to each other. I will the action that tends one way, while my desire tends another, directly contrary way. Or consider a man who finds that a violent fit of gout in his limbs has relieved him of a drowsiness in his head, or a lack of appetite in his stomach. He desires to be relieved of the pain in his feet or hands too (for wherever there is pain there is a desire to be rid of it). Yet as long as he fears that removing the pain may shift the harmful humor to a more vital part, his will is never de-

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never determined to any one action that may serve to remove this pain.

Whence it is evident that desiring and willing are two distinct acts of the mind; and consequently that the will, which is but the power of volition, is much more distinct from desire.

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termined to any action that might serve to remove this pain.[42]

From this it is evident that desiring and willing are two distinct acts of the mind. Consequently the will, which is only the power of volition, is even more distinct from desire.

UNEASINESS DETERMINES THE WILL

In his revised view, the most pressing uneasiness, not the greater good, determines the will.

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2.21.31 *Uneasiness determines the will.*—To return then to the inquiry, what is it that determines the will in regard to our actions? And that, upon second thoughts, I am apt to imagine is not, as is generally supposed, the greater good in view, but some (and for the most part the most pressing) uneasiness a man is at present under. This is that which successively determines the will, and sets us upon those actions we perform. This uneasiness we may call, as it is, desire; which is an uneasiness of the mind for the want of some absent good.

All pain of the body, of what sort soever, and disquiet of the mind, is uneasiness: and with this is always joined desire, equal to the pain or uneasiness felt, and is scarce distinguishable from it. For desire being nothing but an uneasiness in the want of an absent good, in reference to any pain felt, ease is that absent good; and till that ease be attained, we may call it desire, nobody feeling pain that he wishes not to be eased of, with a desire equal to that pain, and inseparable from it. Besides this desire of ease from pain there is another of absent positive good; and here also the desire and uneasiness are equal.

As much as we desire any absent good, so much are we in pain for it. But here all absent good does not, according to the greatness it has, or is acknowledged to have, cause pain equal to that greatness; as all pain causes desire equal to itself: because the absence of good is not always a pain, as the presence of pain is. And therefore absent good may be looked on and considered without desire; but so much as there is any where of desire, so much there is of uneasiness.

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Uneasiness determines the will.—To return, then, to the inquiry: what is it that determines the will with regard to our actions? On second thoughts, I am inclined to think it is not the greater good in view, as is generally supposed. It is some uneasiness a man is presently under, and for the most part the most pressing one. This is what determines the will, one time after another, and sets us on the actions we perform. This uneasiness we may call, as it is, desire, which is an uneasiness of the mind for the lack of some absent good.

All pain of the body, of whatever sort, and all disquiet of the mind, is uneasiness. Desire is always joined with it, equal to the pain or uneasiness felt, and hardly distinguishable from it. For desire is nothing but an uneasiness at the lack of an absent good. With reference to any pain felt, ease is that absent good, and until that ease is attained we may call it desire. Nobody feels pain that he does not wish to be eased of, with a desire equal to that pain and inseparable from it. Besides this desire of ease from pain, there is another desire, of absent positive good. Here too the desire and the uneasiness are equal.

As much as we desire any absent good, so much are we in pain for it. But here not every absent good causes pain equal to its greatness, whether real or acknowledged, in the way that every pain causes desire equal to itself. For the absence of good is not always a pain, as the presence of pain is. And so absent good may be looked at and considered without desire. But however much desire there is anywhere, there is that much uneasiness.

42 In the humoral medicine of the time, gout was thought to draw a harmful fluid (a "humor") to the extremities and away from the vital organs.

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2.21.32 *Desire is uneasiness.*—That desire is a state of uneasiness, every one who reflects on himself will quickly find. Who is there that has not felt in desire what the wise man says of hope (which is not much different from it,) that "it being deferred, makes the heart sick?" and that still proportionable to the greatness of the desire; which sometimes raises the uneasiness to that pitch, that it makes people cry out, give me children, give me the thing desired, or I die! Life itself, and all its enjoyments, is a burden that cannot be borne under the lasting and unremoved pressure of such an uneasiness.

2.21.33 *The uneasiness of desire determines the will.*—Good and evil, present and absent, it is true, work upon the mind: but that which immediately determines the will, from time to time, to every voluntary action, is the uneasiness of desire, fixed on some absent good: either negative, as indolence to one in pain; or positive, as enjoyment of pleasure. That it is this uneasiness that determines the will to the successive voluntary actions, whereof the greatest part of our lives is made up, and by which we are conducted through different courses to different ends, I shall endeavour to show, both from experience and the reason of the thing.

2.21.34 *This is the spring of action.*—When a man is perfectly content with the state he is in, which is, when he is perfectly without any uneasiness, what industry, what action, what will is there left, but to continue in it? of this every man's observation will satisfy him. And thus we see our All-wise Maker, suitably to our constitution and frame, and knowing what it is that determines the will, has put into man the uneasiness of hunger and thirst, and other natural desires, that return at their seasons to move and determine their wills, for the preservation of themselves, and the continuation of their species.

For I think we may conclude, that if the bare contemplation of these good ends, to which we are carried by these several uneasinesses, had been sufficient to determine the will, and set us on work, we should have had none of these natural pains, and perhaps in this world little or

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Desire is uneasiness.—Anyone who reflects on himself will quickly find that desire is a state of uneasiness. The wise man says of hope (which is not very different from desire) that "being deferred, it makes the heart sick." Who has not felt this in desire? And the sickness is always in proportion to the greatness of the desire. Sometimes it raises the uneasiness to such a pitch that it makes people cry out, Give me children, give me the thing desired, or I die! Life itself, with all its enjoyments, is a burden that cannot be borne under the lasting and unrelieved pressure of such an uneasiness.[43]

The uneasiness of desire determines the will.—It is true that good and evil, present and absent, work on the mind. But what immediately determines the will, from time to time, to every voluntary action is the uneasiness of desire fixed on some absent good. That good may be negative, as freedom from pain is to someone in pain, or positive, as the enjoyment of pleasure. This uneasiness determines the will to the successive voluntary actions that make up the greatest part of our lives, and by which we are led through different courses to different ends. I will try to show this, both from experience and from the reason of the thing.

This is the spring of action.—When a man is perfectly content with the state he is in, that is, when he is entirely free of any uneasiness, what effort, what action, what will is left to him, except to continue in it? Every man's own observation will satisfy him of this. And so we see what our all-wise Maker has done, suitably to our constitution and makeup, and knowing what it is that determines the will. He has put into man the uneasiness of hunger and thirst, and other natural desires. These return in their seasons to move and determine people's wills, for their own preservation and the continuation of their species.

These various uneasinesses carry us toward certain good ends. I think we may conclude that if the bare contemplation of those ends had been enough to determine the will and set us to work, we would have had none of these natural pains,

43 The "wise man" is Solomon, traditionally the author of Proverbs (Proverbs 13:12). "Give me children, or else I die" is Rachel's cry in Genesis 30:1.

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no pain at all. "It is better to marry than to burn," says St Paul; where we may see what it is that chiefly drives men into the enjoyments of conjugal life. A little burning felt pushes us more powerfully than greater pleasures in prospect draw or allure.

2.21.35 *The greatest positive good determines not the will, but uneasiness.*—It seems so established and settled a maxim by the general consent of all mankind, that good, the greater good, determines the will, that I do not at all wonder, that when I first published my thoughts on this subject, I took it for granted; and I imagine that by a great many I shall be thought more excusable for having then done so, than that now I have ventured to recede from so received an opinion.

But yet, upon a stricter inquiry, I am forced to conclude, that good, the greater good, though apprehended, and acknowledged to be so, does not determine the will, until our desire, raised proportionably to it, makes us uneasy in the want of it. Convince a man ever so much that plenty has its advantages over poverty; make him see and own, that the handsome conveniences of life are better than nasty penury; yet as long as he is content with the latter, and finds no uneasiness in it, he moves not; his will never is determined to any action that shall bring him out of it.

Let a man be ever so well persuaded of the advantages of virtue, that it is as necessary to a man who has any great aims in this world, or hopes in the next, as food to life; yet, till he hungers and thirsts after righteousness, till he feels an uneasiness in the want of it, his will will not be determined to any action in pursuit of this confessed greater good; but any other uneasiness he feels in himself shall take place, and carry his will to other actions.

On the other side, let a drunkard see that his health decays, his estate wastes; discredit and diseases, and the want of all things, even of his beloved drink, attends him in the course he follows; yet the returns of uneasiness to miss his companions, the habitual thirst after his cups at

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and perhaps little or no pain at all in this world. “It is better to marry than to burn,” says St. Paul. Here we may see what it is that chiefly drives men into the enjoyments of married life. A little burning that is felt pushes us more powerfully than greater pleasures in prospect draw or allure us.[44]

The greatest positive good determines not the will, but uneasiness.—By the general consent of all mankind, it seems an established and settled maxim that good, the greater good, determines the will. So I am not at all surprised that I took it for granted when I first published my thoughts on this subject. And I imagine many people will think me more excusable for having done so then than for having now ventured to depart from so widely received an opinion.[45]

But upon a stricter inquiry I am forced to conclude otherwise. Good, the greater good, even when it is perceived and acknowledged to be so, does not determine the will until our desire, raised in proportion to it, makes us uneasy at the lack of it. Convince a man as much as you like that plenty has its advantages over poverty. Make him see and admit that the pleasant comforts of life are better than squalid want. Yet as long as he is content with the latter and finds no uneasiness in it, he does not move. His will is never determined to any action that would bring him out of it.

Let a man be as thoroughly persuaded as you like of the advantages of virtue. Let him see that it is as necessary to a man who has any great aims in this world, or hopes in the next, as food is to life. Yet until he hungers and thirsts after righteousness, until he feels an uneasiness at the lack of it, his will will not be determined to any action in pursuit of this admittedly greater good. Instead, any other uneasiness he feels in himself will take its place and carry his will to other actions.[46]

On the other side, let a drunkard see that his health is decaying and his estate wasting. Let him see that disgrace and diseases, and the lack of everything, even of his beloved drink, await him in the course he is following. Still, the recurring uneasiness of missing his companions, and the ha-

44 1 Corinthians 7:9.
45 In the first edition (1690) Locke held that the greater good determines the will; he rewrote much of this chapter for the second edition (1694).
46 “Hunger and thirst after righteousness”: Matthew 5:6.

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the usual time, drives him to the tavern, though he has in his view the loss of health and plenty, and perhaps of the joys of another life: the least of which is no inconsiderable good, but such as he confesses is far greater than the tickling of his palate with a glass of wine, or the idle chat of a soaking club.

It is not want of viewing the greater good; for he sees and acknowledges it, and, in the intervals of his drinking hours, will take resolutions to pursue the greater good; but when the uneasiness to miss his accustomed delight returns, the greater acknowledged good loses its hold, and the present uneasiness determines the will to the accustomed action; which thereby gets stronger footing to prevail against the next occasion, though he at the same time makes secret promises to himself, that he will do so no more: this is the last time he will act against the attainment of those greater goods.

And thus he is from time to time in the state of that unhappy complainer, *video meliora proboque, deteriora sequor:* which sentence, allowed for true, and made good by constant experience, may this, and possibly no other way, be easily made intelligible.

2.21.36 *Because the removal of uneasiness is the first step to happiness.*—If we inquire into the reason of what experience makes so evident in fact, and examine why it is uneasiness alone operates on the will, and determines it in its choice: we shall find that we being capable but of one determination of the will to one action at once, the present uneasiness that we are under does naturally determine the will, in order to that happiness which we all aim at in all our actions; forasmuch as whilst we are under any uneasiness, we cannot apprehend ourselves happy, or in the way to it: pain and uneasiness being, by every one, concluded and felt to be inconsistent with happiness, spoiling the relish even of those good things which we have; a little pain serving to mar all the pleasure we rejoiced in.

And therefore that which of course determines the choice of our will to the next action, will always be the removing of pain, as long as we

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bitual thirst for his cups at the usual time, drive him to the tavern. He does this though he has in view the loss of health and plenty, and perhaps of the joys of another life. The least of these is no small good. He admits it is far greater than the tickling of his palate with a glass of wine, or the idle chat of a drinking club.

It is not for lack of seeing the greater good. He sees it and acknowledges it, and in the intervals between his drinking hours he will make resolutions to pursue the greater good. But when the uneasiness of missing his accustomed pleasure returns, the greater good he acknowledges loses its hold, and the present uneasiness determines his will to the accustomed action. That action thereby gains a stronger footing to prevail the next time. It does so even while he secretly promises himself that he will not do it again, and that this is the last time he will act against attaining those greater goods.

And so from time to time he is in the state of that unhappy complainer: *video meliora proboque, deteriora sequor* ("I see the better and approve it; I follow the worse"). Everyone accepts this saying as true, and constant experience confirms it. It can easily be made intelligible in this way, and possibly in no other.[47]

Because the removal of uneasiness is the first step to happiness.—Experience makes it evident that uneasiness alone operates on the will and determines it in its choice. If we ask why this is so, we find the following. We are capable of only one determination of the will to one action at a time. So the present uneasiness we are under naturally determines the will, with a view to the happiness we all aim at in all our actions. For as long as we are under any uneasiness, we cannot think of ourselves as happy, or even on the way to happiness. Everyone concludes and feels that pain and uneasiness are inconsistent with happiness. They spoil the relish even of the good things we have, and a little pain is enough to mar all the pleasure we were rejoicing in.

And therefore what naturally determines the choice of our will for the next action will always be the removal of pain, as long as we have any left.

47 Ovid, *Metamorphoses* 7.20–21, spoken by Medea.

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have any left, as the first and necessary step towards happiness.

2.21.37 *Because uneasiness alone is present.*—Another reason why it is uneasiness alone determines the will, may be this: because that alone is present, and it is against the nature of things, that what is absent should operate where it is not. It may be said, that absent good may by contemplation be brought home to the mind, and made present. The idea of it indeed may be in the mind, and viewed as present there; but nothing will be in the mind as a present good, able to counterbalance the removal of any uneasiness which we are under, till it raises our desire; and the uneasiness of that has prevalency in determining the will.

Till then, the idea in the mind of whatever good, is there only, like other ideas, the object of bare inactive speculation, but operates not on the will, nor sets us on work; the reason whereof I shall show by and by. How many are to be found, that have had lively representations set before their minds of the unspeakable joys of heaven, which they acknowledge both possible and probable too, who yet would be content to take up with their happiness here!

And so the prevailing uneasinesses of their desires, let loose after the enjoyments of this life, take their turns in the determining their wills; and all that while they take not one step, are not one jot moved towards the good things of another life, considered as ever so great.

2.21.38 *Because all who allow the joys of heaven possible, pursue them not.*—Were the will determined by the views of good, as it appears in contemplation greater or less to the understanding, which is the state of all absent good, and that which in the received opinion the will is supposed to move to, and to be moved by, I do not see how it could ever get loose from the infinite eternal joys of heaven, once proposed and considered as possible.

For all absent good, by which alone, barely proposed and coming in view, the will is thought to be determined, and so to set us on action, being only possible, but not infallibly certain; it is unavoidable, that the infinitely greater possible good should regularly and constantly determine the will in all the successive actions it directs: and

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That is the first and necessary step toward happiness.

Because uneasiness alone is present.—Another reason why uneasiness alone determines the will may be this: it alone is present, and it is against the nature of things that what is absent should operate where it is not. It may be said that absent good can be brought home to the mind by contemplation and made present. The idea of it may indeed be in the mind and be viewed as present there. But nothing will be in the mind as a present good, able to outweigh the removal of any uneasiness we are under, until it raises our desire. It is the uneasiness of that desire which prevails in determining the will.

Until then, the idea of any good in the mind is there only as other ideas are, as an object of bare, inactive speculation. It does not operate on the will or set us to work, for a reason I will show shortly. How many people there are who have had vivid representations of the unspeakable joys of heaven set before their minds, and who acknowledge those joys to be possible and even probable, yet would be content to settle for their happiness here!

And so the prevailing uneasinesses of their desires, let loose in pursuit of the enjoyments of this life, take turns determining their wills. All the while they do not take one step, and are not moved one bit toward the good things of another life, however great they consider them to be.

Because all who allow the joys of heaven possible, pursue them not.—Suppose the will were determined by our view of good, according as it appears greater or less to the understanding when contemplated. That is the state of all absent good, and on the received opinion it is what the will is supposed to move toward and be moved by. If that were so, I do not see how the will could ever break loose from the infinite, eternal joys of heaven, once they had been proposed and considered as possible.

For all absent good is only possible, not infallibly certain. Yet on this view absent good alone, merely by being proposed and coming into view, determines the will and so sets us on action. It would then be unavoidable that the infinitely greater possible good should regularly and constantly determine the will in all the successive ac-

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then we should keep constantly and steadily in our course towards heaven, without ever standing still, or directing our actions to any other end; the eternal condition of a future state infinitely outweighing the expectation of riches or honour, or any other worldly pleasure which we can propose to ourselves, though we should grant these the more probable to be obtained: for nothing future is yet in possession, and so the expectation even of these may deceive us.

If it were so, that the greater good in view determines the will, so great a good once proposed could not but seize the will, and hold it fast to the pursuit of this infinitely greatest good, without ever letting it go again; for the will having a power over and directing the thoughts as well as other actions, would, if it were so, hold the contemplation of the mind fixed to that good.

But any great uneasiness is never neglected.—This would be the state of the mind and regular tendency of the will in all its determinations, were it determined by that which is considered and in view the greater good; but that it is not so is visible in experience: the infinitely greatest confessed good being often neglected to satisfy the successive uneasiness of our desires pursuing trifles. But though the greatest allowed, even everlasting unspeakable good, which has sometimes moved and affected the mind, does not steadfastly hold the will, yet we see any very great and prevailing uneasiness, having once laid hold on the will, lets it not go; by which we may be convinced what it is that determines the will.

Thus any vehement pain of the body, the ungovernable passion of a man violently in love, or the impatient desire of revenge, keeps the will steady and intent; and the will, thus determined, never lets the understanding lay by the object, but all the thoughts of the mind and powers of the body are uninterruptedly employed that way, by the determination of the will, influenced by that topping uneasiness as long as it lasts; whereby it seems to me evident, that the will or power of setting us upon one action in preference to all other, is determined in us by uneasiness. And whether this be not so, I desire every one to observe in himself.

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tions it directs. We would then keep constantly and steadily on our course toward heaven, never standing still and never directing our actions to any other end. The eternal condition of a future state infinitely outweighs the expectation of riches, honor, or any other worldly pleasure we can set before ourselves, even if we grant that these are more likely to be obtained. For nothing future is yet in our possession, and so even the expectation of these may deceive us.

If it were true that the greater good in view determines the will, so great a good, once proposed, could not fail to seize the will and hold it fast to the pursuit of this infinitely greatest good, never letting it go again. For the will has power over the thoughts and directs them, as it does our other actions. So if this were the case, the will would hold the mind's contemplation fixed on that good.

But any great uneasiness is never neglected.—This would be the state of the mind, and the regular tendency of the will in all its determinations, if the will were determined by what is considered and seen to be the greater good. But experience plainly shows that this is not so. The good that is admitted to be infinitely the greatest is often neglected in order to satisfy the successive uneasiness of desires that chase trifles. The greatest acknowledged good, even an everlasting and unspeakable good, which has sometimes moved and affected the mind, does not hold the will steadily. Yet we see that any very great and prevailing uneasiness, once it has laid hold of the will, does not let it go. From this we may be convinced what it is that determines the will.

Thus any intense bodily pain, the ungovernable passion of a man violently in love, or the impatient desire for revenge keeps the will steady and intent. The will, so determined, never lets the understanding set the object aside. All the thoughts of the mind and powers of the body are employed without interruption in that direction, by the determination of the will, influenced by that overriding uneasiness for as long as it lasts. From this it seems evident to me that the will, or the power of setting us on one action in preference to all others, is determined in us by uneasiness. Whether this is so, I ask everyone to observe in himself.

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2.21.39 *Desire accompanies all uneasiness.*—I have hitherto chiefly instanced in the uneasiness of desire, as that which determines the will, because that is the chief and most sensible, and the will seldom orders any action, nor is there any voluntary action performed, without some desire accompanying it; which I think is the reason why the will and desire are so often confounded. But yet we are not to look upon the uneasiness which makes up, or at least accompanies, most of the other passions, as wholly excluded in the case. Aversion, fear, anger, envy, shame, &c. have each their uneasiness too, and thereby influence the will.

These passions are scarce any of them in life and practice simple and alone, and wholly unmixed with others; though usually in discourse and contemplation, that carries the name which operates strongest, and appears most in the present state of the mind: nay, there is, I think, scarce any of the passions to be found without desire joined with it. I am sure, wherever there is uneasiness, there is desire: for we constantly desire happiness; and whatever we feel of uneasiness, so much it is certain we want of happiness, even in our own opinion, let our state and condition otherwise be what it will.

Besides, the present moment not being our eternity, whatever our enjoyment be, we look beyond the present and desire goes with our foresight, and that still carries the will with it. So that even in joy itself, that which keeps up the action, whereon the enjoyment depends, is the desire to continue it, and fear to lose it: and whenever a greater uneasiness than that takes place in the mind, the will presently is by that determined to some new action, and the present delight neglected.

2.21.40 *The most pressing uneasiness naturally determines the will.*—But we being in this world beset with sundry uneasinesses, distracted with different desires, the next inquiry naturally will be, which of them has the precedency in determining the will to the next action? and to that the answer is, that ordinarily which is the most pressing of those that are judged capable of being then removed.

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Desire accompanies all uneasiness.—So far I have mostly used the uneasiness of desire as my example of what determines the will, because it is the chief and most noticeable uneasiness. The will seldom orders any action, and no voluntary action is performed, without some desire accompanying it. I think this is why the will and desire are so often confused. Still, we should not regard the uneasiness that makes up, or at least accompanies, most of the other passions as wholly excluded here. Aversion, fear, anger, envy, shame, and so on each have their uneasiness too, and by it they influence the will.

In actual life and practice, hardly any of these passions occurs simple and alone, wholly unmixed with others. In talk and reflection, though, the passion that operates most strongly and shows most in the present state of the mind usually gets the name. Indeed, I think hardly any passion is to be found without desire joined to it. I am sure that wherever there is uneasiness there is desire. For we constantly desire happiness, and however much uneasiness we feel, it is certain that we lack that much happiness, even in our own opinion, whatever our state and condition may otherwise be.

Besides, since the present moment is not our eternity, we look beyond the present, whatever our enjoyment is. Desire goes along with our foresight, and it always carries the will with it. So even in joy itself, what keeps up the action on which the enjoyment depends is the desire to continue it and the fear of losing it. And whenever a greater uneasiness than that takes hold of the mind, the will is immediately determined by it to some new action, and the present delight is neglected.

The most pressing uneasiness naturally determines the will.—But in this world we are beset with various uneasinesses and pulled apart by different desires. So the next question, naturally, is which of them takes precedence in determining the will to the next action. The answer is: ordinarily, the most pressing of those that are judged capable of being removed at that time.

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For the will being the power of directing our operative faculties to some action, for some end, cannot at any time be moved towards what is judged at that time unattainable: that would be to suppose an intelligent being designedly to act for an end only to lose its labour, for so it is to act for what is judged not attainable: and therefore very great uneasinesses move not the will, when they are judged not capable of a cure: they, in that case, put us not upon endeavours. But, these set apart, the most important and urgent uneasiness we at that time feel, is that which ordinarily determines the will successively in that train of voluntary actions which make up our lives.

The greatest present uneasiness is the spur to action that is constantly felt, and for the most part determines the will in its choice of the next action. For this we must carry along with us, that the proper and only object of the will is some action of ours, and nothing else: for we produce nothing by our willing it but some action in our power, it is there the will terminates, and reaches no farther.

2.21.41 *All desire happiness.*—If it be farther asked what it is moves desire? I answer, happiness, and that alone. Happiness and misery are the names of two extremes, the utmost bounds whereof we know not; it is what "eye hath not seen, ear not heard, nor hath it entered into the heart of man to conceive." But of some degrees of both we have very lively impressions, made by several instances of delight and joy on the one side, and torment and sorrow on the other; which, for shortness sake, I shall comprehend under the names of pleasure and pain, there being pleasure and pain of the mind as well as the body: "with him is fulness of joy, and pleasure for evermore." Or, to speak truly, they are all of the mind; though some have their rise in the mind from thought, others in the body from certain modifications of motion.

2.21.42 *Happiness, what.*—Happiness, then, in its full extent, is the utmost pleasure we are capable of, and misery the utmost pain: and the lowest degree of what can be called happiness is so much ease from all pain, and so much present pleasure,

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For the will is the power of directing our active faculties to some action for some end, and so it can never be moved toward what is judged at that time to be unattainable. That would be to suppose that an intelligent being deliberately acts for an end only to waste its labor, since that is what acting for something judged unattainable amounts to. And therefore very great uneasinesses do not move the will when they are judged incurable; in that case they do not set us on any effort. But setting these aside, the most important and urgent uneasiness we feel at a given time is what ordinarily determines the will, one step after another, in the train of voluntary actions that make up our lives.

The greatest present uneasiness is the spur to action that we constantly feel, and for the most part it determines the will in its choice of the next action. For we must keep this in mind: the proper and only object of the will is some action of ours, and nothing else. By willing, we produce nothing but some action in our power. That is where the will terminates, and it reaches no further.

All desire happiness.—If it is further asked what moves desire, I answer: happiness, and that alone. Happiness and misery are the names of two extremes whose outermost bounds we do not know. It is what “eye has not seen, ear has not heard, nor has it entered into the heart of man to conceive.” But of some degrees of both we have very vivid impressions, made by various instances of delight and joy on the one side, and of torment and sorrow on the other. For brevity’s sake I will include these under the names of pleasure and pain, since there is pleasure and pain of the mind as well as of the body: “with him is fullness of joy, and pleasure forevermore.” Or, to speak truly, they are all of the mind, though some arise in the mind from thought, and others in the body from certain modifications of motion.[48]

Happiness, what.—Happiness, then, in its full extent, is the utmost pleasure we are capable of, and misery the utmost pain. The lowest degree of what can be called happiness is that amount of ease from all pain, and that amount of present pleas-

48 The quotations are from 1 Corinthians 2:9 and Psalm 16:11.

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as without which any one cannot be content. Now because pleasure and pain are produced in us by the operation of certain objects, either on our minds or our bodies, and in different degrees, therefore what has an aptness to produce pleasure in us is that we call good, and what is apt to produce pain in us we call evil, for no other reason but for its aptness to produce pleasure and pain in us, wherein consists our happiness and misery.

Farther, though what is apt to produce any degree of pleasure be in itself good, and what is apt to produce any degree of pain be evil, yet it often happens that we do not call it so when it comes in competition with a greater of its sort; because when they come in competition, the degrees also of pleasure and pain have justly a preference. So that if we will rightly estimate what we call good and evil, we shall find it lies much in comparison: for the cause of every less degree of pain, as well as every greater degree of pleasure, has the nature of good, and *vice versa*.

2.21.43 *What good is desired, what not.*—Though this be that which is called good and evil, and all good be the proper object of desire in general, yet all good, even seen, and confessed to be so, does not necessarily move every particular man's desire, but only that part, or so much of it as is considered and taken to make a necessary part of his happiness. All other good, however great in reality or appearance, excites not a man's desires, who looks not on it to make a part of that happiness wherewith he, in his present thoughts, can satisfy himself.

Happiness, under this view, every one constantly pursues, and desires what makes any part of it: other things, acknowledged to be good, he can look upon without desire, pass by, and be content without. There is nobody, I think, so senseless as to deny that there is pleasure in knowledge: and for the pleasures of sense, they have too many followers to let it be questioned whether men are taken with them or no.

Now let one man place his satisfaction in sensual pleasures, another in the delight of knowledge: though each of them cannot but confess there is great pleasure in what the other pursues, yet neither of them making the other's delight a part of his happiness, their desires are not moved, but

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ure, without which a person cannot be content. Now pleasure and pain are produced in us, in different degrees, by the operation of certain objects on our minds or our bodies. Therefore what is apt to produce pleasure in us is what we call good, and what is apt to produce pain in us we call evil. We call them so for no other reason than their aptness to produce pleasure and pain in us, in which our happiness and misery consist.

Further, although what is apt to produce any degree of pleasure is good in itself, and what is apt to produce any degree of pain is evil, we often do not call it so when it competes with something greater of its kind. For when they compete, the degrees of pleasure and pain rightly carry weight too. So if we want to estimate rightly what we call good and evil, we will find that it lies largely in comparison. The cause of every lesser degree of pain, as well as of every greater degree of pleasure, has the nature of good, and *vice versa*.

What good is desired, what not.—This is what is called good and evil, and all good is the proper object of desire in general. Yet not all good, even when it is seen and admitted to be good, necessarily moves every particular man's desire. It moves only that part of it, or that much of it, which he considers and takes to be a necessary part of his happiness. All other good, however great in reality or appearance, does not stir the desires of a man who does not regard it as part of the happiness with which, in his present thoughts, he can be satisfied.

Happiness, understood in this way, is what everyone constantly pursues, and he desires whatever makes up any part of it. Other things, which he acknowledges to be good, he can look at without desire, pass by, and be content without. Nobody, I think, is so senseless as to deny that there is pleasure in knowledge. As for the pleasures of the senses, they have too many followers for anyone to question whether men are attracted by them.

Now let one man place his satisfaction in sensual pleasures and another in the delight of knowledge. Each of them has to admit that there is great pleasure in what the other pursues. Yet since neither makes the other's delight part of his own happiness, their desires are not moved. Each is satisfied

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each is satisfied without what the other enjoys, and so his will is not determined to the pursuit of it.

But yet as soon as the studious man's hunger and thirst make him uneasy, he, whose will was never determined to any pursuit of good cheer, poignant sauces, delicious wines, by the pleasant taste he has found in them, is, by the uneasiness of hunger and thirst, presently determined to eating and drinking, though possibly with great indifferency, what wholesome food comes in his way. And on the other side, the epicure buckles to study when shame, or the desire to recommend himself to his mistress, shall make him uneasy in the want of any sort of knowledge.

Thus, how much soever men are in earnest, and constant in pursuit of happiness, yet they may have a clear view of good, great and confessed good, without being concerned for it, or moved by it, if they think they can make up their happiness without it. Though as to pain, that they are always concerned for; they can feel no uneasiness without being moved. And therefore being uneasy in the want of whatever is judged necessary to their happiness, as soon as any good appears to make a part of their portion of happiness, they begin to desire it.

2.21.44 *Why the greatest good is not always desired.*—This, I think, any one may observe in himself and others, that the greater visible good does not always raise men's desires in proportion to the greatness it appears and is acknowledged to have; though every little trouble moves us, and sets us on work to get rid of it. The reason whereof is evident from the nature of our happiness and misery itself. All present pain, whatever it be, makes a part of our present misery: but all absent good does not at any time make a necessary part of our present happiness, nor the absence of it make a part of our misery.

If it did, we should be constantly and infinitely miserable; there being infinite degrees of happiness which are not in our possession. All uneasiness therefore being removed, a moderate portion of good serves at present to content men; and some few degrees of pleasure, in a succession of ordinary enjoyments, make up a happiness wherein they can be satisfied. If this were not so, there could be no room for those indifferent and

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without what the other enjoys, and so his will is not determined to pursue it.

But as soon as the studious man's hunger and thirst make him uneasy, things change. His will was never determined to any pursuit of fine food, piquant sauces, or delicious wines by the pleasant taste he has found in them. Yet by the uneasiness of hunger and thirst he is immediately determined to eating and drinking whatever wholesome food comes his way, perhaps with great indifference. And on the other side, the epicure buckles down to study when shame, or the desire to recommend himself to the woman he is courting, makes him uneasy at lacking some kind of knowledge.

Thus, however earnest and constant men are in pursuit of happiness, they may have a clear view of good, great and admitted good, without being concerned for it or moved by it, if they think they can make up their happiness without it. Pain, however, always concerns them; they can feel no uneasiness without being moved. And so, since they are uneasy at lacking whatever is judged necessary to their happiness, as soon as any good appears to make up part of their share of happiness, they begin to desire it.

Why the greatest good is not always desired.—Anyone, I think, can observe in himself and others that the greater visible good does not always raise men's desires in proportion to the greatness it appears to have and is acknowledged to have. Yet every little trouble moves us and sets us to work to get rid of it. The reason is evident from the very nature of our happiness and misery. All present pain, whatever it is, makes up part of our present misery. But absent good does not at any time make up a necessary part of our present happiness, nor does its absence make up part of our misery.

If it did, we would be constantly and infinitely miserable, since there are infinite degrees of happiness not in our possession. So once all uneasiness is removed, a moderate portion of good is enough for the present to content men. A few degrees of pleasure, in a succession of ordinary enjoyments, make up a happiness with which they can be satisfied. If this were not so, there could be no room for those indifferent and plainly trifling

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visible trifling actions, to which our wills are so often determined, and wherein we voluntarily waste so much of our lives; which remissness could by no means consist with a constant determination of will or desire to the greatest apparent good.

That this is so, I think few people need go far from home to be convinced. And indeed in this life there are not many whose happiness reaches so far as to afford them a constant train of moderate mean pleasures without any mixture of uneasiness; and yet they could be content to stay here for ever: though they cannot deny, but that it is possible there may be a state of eternal durable joys after this life, far surpassing all the good that is to be found here.

Nay, they cannot but see that it is more possible than the attainment and continuation of that pittance of honour, riches, or pleasure which they pursue, and for which they neglect that eternal state: but yet in full view of this difference, satisfied of the possibility of a perfect, secure and lasting happiness in a future state, and under a clear conviction that it is not to be had here, whilst they bound their happiness within some little enjoyment or aim of this life, and exclude the joys of heaven from making any necessary part of it, their desires are not moved by this greater apparent good, nor their wills determined to any action or endeavour for its attainment.

2.21.45 *Why not being desired, it moves not the will.*—The ordinary necessities of our lives fill a great part of them with the uneasiness of hunger, thirst, heat, cold, weariness of labour, and sleepiness, in their constant returns, &c. To which if, besides accidental harms, we add the fantastical uneasiness (as itch after honour, power, or riches, &c.) which acquired habits by fashion, example, and education, have settled in us, and a thousand other irregular desires, which custom has made natural to us; we shall find, that a very little part of our life is so vacant from these uneasinesses, as to leave us free to the attraction of remoter absent good.

We are seldom at ease, and free enough from the solicitation of our natural or adopted desires, but a constant succession of uneasinesses out of that stock, which natural wants or acquired habits have heaped up, take the will in their turns and

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actions to which our wills are so often determined, and in which we voluntarily waste so much of our lives. Such slackness could not possibly be consistent with a constant determination of the will or desire to the greatest apparent good.

Few people, I think, need to look far from home to be convinced that this is so. Indeed, in this life there are not many whose happiness goes so far as to give them a constant train of moderate, modest pleasures without any mixture of uneasiness. And yet they would be content to stay here forever, though they cannot deny that there may possibly be a state of eternal, lasting joys after this life, far surpassing all the good to be found here.

Indeed, they cannot help seeing that it is more possible than the attainment and continuation of the pittance of honor, riches, or pleasure they pursue, and for which they neglect that eternal state. Yet they have this difference in full view. They are satisfied that a perfect, secure, and lasting happiness in a future state is possible, and clearly convinced that it is not to be had here. Still, while they confine their happiness to some small enjoyment or aim of this life, and exclude the joys of heaven from making any necessary part of it, their desires are not moved by this greater apparent good, and their wills are not determined to any action or effort to attain it.

Why not being desired, it moves not the will.—The ordinary necessities of life fill a great part of it with the uneasiness of hunger, thirst, heat, cold, weariness from labor, sleepiness, and so on, in their constant returns. Add to these, besides accidental harms, the fanciful uneasinesses (such as the itch for honor, power, or riches) which habits acquired through fashion, example, and education have settled in us, and a thousand other irregular desires that custom has made natural to us. We will then find that very little of our life is so free of these uneasinesses as to leave us open to the attraction of more remote, absent good.

We are seldom at ease, and seldom free enough from the solicitation of our natural or adopted desires. Instead, a constant succession of uneasinesses, drawn from the stock that natural wants or acquired habits have heaped up, take the will in

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no sooner is one action despatched, which by such a determination of the will we are set upon, but another uneasiness is ready to set us on work.

For the removing of the pains we feel, and are at present pressed with, being the getting out of misery, and consequently the first thing to be done in order to happiness, absent good, though thought on, confessed, and appearing to be good, not making any part of this unhappiness in its absence, is jostled out to make way for the removal of those uneasinesses we feel; till due and repeated contemplation has brought it nearer to our mind, given some relish of it, and raised in us some desire: which then beginning to make a part of our present uneasiness, stands upon fair terms with the rest to be satisfied: and so, according to its greatness and pressure, comes in its turn to determine the will.

2.21.46 *Due consideration raises desire.*—And thus, by a due consideration, and examining any good proposed, it is in our power to raise our desires in a due proportion to the value of that good, whereby in its turn and place it may come to work upon the will and be pursued.

For good, though appearing, and allowed ever so great, yet till it has raised desires in our minds, and thereby made us uneasy in its want, it reaches not our wills; we are not within the sphere of its activity; our wills being under the determination only of those uneasinesses which are present to us, which (whilst we have any) are always soliciting, and ready at hand to give the will its next determination; the balancing, when there is any in the mind, being only which desires shall be next satisfied, which uneasiness first removed.

Whereby it comes to pass, that as long as any uneasiness, any desire remains in our mind, there is no room for good, barely as such, to come at the will, or at all to determine it. Because, as has been said, the first step in our endeavours after happiness being to get wholly out of the confines of misery, and to feel no part of it, the will can be at leisure for nothing else, till every uneasiness we feel be perfectly removed; which, in the multitude of wants and desires we are beset with in this imperfect state, we are not like to be ever freed from in this world.

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their turns. No sooner is one action finished, which such a determination of the will set us on, than another uneasiness is ready to set us to work.

For removing the pains we feel and are pressed with at present is getting out of misery, and consequently the first thing to be done on the way to happiness. Absent good, though it is thought about, admitted, and appears to be good, does not make up any part of this unhappiness by its absence. So it is jostled aside to make way for the removal of the uneasinesses we feel. This lasts until due and repeated contemplation has brought it nearer to our mind, given us some relish for it, and raised some desire in us. That desire then begins to make up part of our present uneasiness, and stands on equal terms with the rest to be satisfied. And so, according to its greatness and pressure, it comes in its turn to determine the will.

Due consideration raises desire.—And so, by duly considering and examining any good proposed, it is in our power to raise our desires in due proportion to the value of that good. In this way, in its turn and place, it may come to work on the will and be pursued.

For good, however great it appears and is admitted to be, does not reach our wills until it has raised desires in our minds and so made us uneasy at lacking it. Until then we are not within the sphere of its activity. Our wills are determined only by the uneasinesses present to us. These (while we have any) are always soliciting us and ready at hand to give the will its next determination. The weighing, when there is any in the mind, is only about which desire shall be satisfied next, which uneasiness removed first.

As a result, as long as any uneasiness, any desire, remains in our mind, there is no room for good, merely as good, to reach the will or to determine it at all. For, as has been said, the first step in our efforts toward happiness is to get wholly out of the confines of misery and to feel no part of it. So the will can attend to nothing else until every uneasiness we feel is completely removed. And given the multitude of wants and desires that beset us in this imperfect state, we are not likely ever to be freed from them in this world.

SUSPENDING DESIRE

The mind can suspend its desires and examine them, and in this lies human liberty.

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2.21.47 *The power to suspend the prosecution on any desire makes way for consideration.*—There being in us a great many uneasinesses always soliciting and ready to determine the will, it is natural, as I have said, that the greatest and most pressing should determine the will to the next action; and so it does for the most part, but not always. For the mind having in most cases, as is evident in experience, a power to suspend the execution and satisfaction of any of its desires, and so all, one after another, is at liberty to consider the objects of them, examine them on all sides, and weigh them with others. In this lies the liberty man has; and from

the not using of it right comes all that variety of mistakes, errors, and faults which we run into in the conduct of our lives, and our endeavours after happiness; whilst we precipitate the determination of our wills, and engage too soon before due examination. To prevent this, we have a power to suspend the prosecution of this or that desire, as every one daily may experiment in himself. This seems to me the source of all liberty; in this seems to consist that which is (as I think improperly) called free-will.

For during this suspension of any desire, before the will be determined to action, and the action (which follows that determination) done, we have opportunity to examine, view, and judge of the good or evil of what we are going to do: and when, upon due examination, we have judged, we have done our duty, all that we can or ought to do in pursuit of our happiness; and it is not a fault, but a perfection of our nature to desire, will and act according to the last result of a fair examination.

2.21.48 *To be determined by our own judgment, is no restraint to liberty.*—This is so far from being a restraint or diminution of freedom, that it is the very improvement and benefit of it; it is not an abridgment, it is the end and use of our liberty; and the farther we are removed from such a determination, the nearer we are to misery and slavery.

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The power to suspend the prosecution on any desire makes way for consideration.—There are in us a great many uneasinesses, always soliciting us and ready to determine the will. It is natural, as I have said, that the greatest and most pressing should determine the will to the next action. And so it does for the most part, but not always. For in most cases, as experience makes evident, the mind has a power to suspend the execution and satisfaction of any of its desires, and so of all of them, one after another. It is then at liberty to consider their objects, examine them from all sides, and weigh them against others. This is where man's liberty lies.

And from not using it rightly comes all that variety of mistakes, errors, and faults we fall into in the conduct of our lives and our efforts toward happiness, when we rush the determination of our wills and commit ourselves too soon, before due examination. To prevent this, we have a power to suspend the pursuit of this or that desire, as anyone can test in himself every day. This seems to me the source of all liberty. In this seems to consist what is called (improperly, I think) free will.

For during this suspension of any desire, before the will is determined to action and the action that follows that determination is done, we have the opportunity to examine, view, and judge the good or evil of what we are about to do. And when we have judged upon due examination, we have done our duty, all that we can or ought to do in pursuit of our happiness. It is not a fault but a perfection of our nature to desire, will, and act according to the final result of a fair examination.

To be determined by our own judgment, is no restraint to liberty.—This is so far from being a restraint or reduction of freedom that it is the very improvement and benefit of it. It is not a curtailment; it is the end and use of our liberty. And the further we are removed from such a determination, the nearer we are to misery and slavery.

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A perfect indifferency in the mind, not determinable by its last judgment of the good or evil that is thought to attend its choice, would be so far from being an advantage and excellency of any intellectual nature, that it would be as great an imperfection as the want of indifferency to act or not to act till determined by the will, would be an imperfection on the other side. A man is at liberty to lift up his hand to his head, or let it rest quiet; he is perfectly indifferent in either; and it would be an imperfection in him if he wanted that power, if he were deprived of that indifferency.

But it would be as great an imperfection if he had the same indifferency whether he would prefer the lifting up his hand, or its remaining in rest, when it would save his head or eyes from a blow he sees coming: it is as much a perfection that desire, or the power of preferring, should be determined by good, as that the power of acting should be determined by the will; and the more certain such determination is, the greater is the perfection.

Nay, were we determined by any thing but the last result of our own minds, judging of the good or evil of any action, we were not free; the very end of our freedom being, that we may attain the good we choose. And therefore every man is put under a necessity by his constitution, as an intelligent being, to be determined in willing by his own thought and judgment what is best for him to do: else he would be under the determination of some other than himself, which is want of liberty.

And to deny that a man's will, in every determination, follows his own judgment, is to say, that a man wills and acts for an end that he would not have, at the time that he wills and acts for it. For if he prefers it in his present thoughts before any other, it is plain he then thinks better of it, and would have it before any other; unless he can have and not have it, will and not will it, at the same time; a contradiction too manifest to be admitted.

2.21.49 *The freest agents are so determined.*—If we look upon those superior beings above us, who enjoy perfect happiness, we shall have reason to judge that they are more steadily determined in their choice of good than we; and yet we have no reason to think

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A perfect indifference in the mind, not determinable by its final judgment of the good or evil thought to attend its choice, would be far from an advantage and excellence in any intellectual nature. It would be as great an imperfection as the lack of indifference to act or not act, until determined by the will, would be on the other side. A man is at liberty to lift his hand to his head or let it rest; he is perfectly indifferent between the two. And it would be an imperfection in him if he lacked that power, if he were deprived of that indifference.

But it would be just as great an imperfection if he had the same indifference about whether to prefer lifting his hand or leaving it at rest when lifting it would save his head or eyes from a blow he sees coming. It is as much a perfection that desire, or the power of preferring, should be determined by good as that the power of acting should be determined by the will. And the more certain such determination is, the greater the perfection.

Indeed, if we were determined by anything other than the final result of our own minds, judging the good or evil of an action, we would not be free. For the very end of our freedom is that we may attain the good we choose. And therefore every man, by his constitution as an intelligent being, is under a necessity of being determined in willing by his own thought and judgment of what is best for him to do. Otherwise he would be under the determination of someone other than himself, which is lack of liberty.

And to deny that a man's will, in every determination, follows his own judgment is to say that a man wills and acts for an end he does not want, at the very time he wills and acts for it. For if in his present thoughts he prefers it to anything else, he plainly thinks better of it at that moment and would have it before anything else. The only alternative is that he can have it and not have it, will it and not will it, at the same time, and that is a contradiction too obvious to be admitted.

The freest agents are so determined.—If we look at those superior beings above us who enjoy perfect happiness, we will have reason to judge that they are more steadily determined in their choice of good than we are. And yet we have no reason to

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they are less happy or less free than we are. And if it were fit for such poor finite creatures as we are to pronounce what infinite wisdom and goodness could do, I think we might say, that God himself cannot choose what is not good; the freedom of the Almighty hinders not his being determined by what is best.

2.21.50 *A constant determination to a pursuit of happiness no abridgment of liberty.*—But to give a right view of this mistaken part of liberty, let me ask, "would any one be a changeling, because he is less determined by wise considerations than a wise man?

Is it worth the name of freedom to be at liberty to play the fool and draw shame and misery upon a man's self?" If to break loose from the conduct of reason, and to want that restraint of examination and judgment, which keeps us from choosing or doing the worse, be liberty, true liberty, *[the mentally ill]* and fools are the only freemen: but yet, I think, nobody would choose to be mad for the sake of such liberty, but he that is mad already. The constant desire of happiness, and the constraint it puts upon us to act for it, nobody, I think, accounts an abridgment of liberty, or at least an abridgment of liberty to be complained of.

God Almighty himself is under the necessity of being happy; and the more any intelligent being is so, the nearer is its approach to infinite perfection and happiness. That in this state of ignorance we shortsighted creatures might not mistake true felicity, we are endowed with a power to suspend any particular desire, and keep it from determining the will, and engaging us in action. This is standing still, where we are not sufficiently assured of the way: examination is consulting a guide.

The determination of the will upon inquiry is following the direction of that guide: and he that has a power to act or not to act, according as such determination directs, is a free agent; such determination abridges not that power wherein liberty consists. He that has his chains knocked off, and the prison doors set open to him, is perfectly at liberty, because he may either go or stay, as he best likes: though his preference be determined to stay, by the darkness of the night,

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think they are less happy or less free than we are. And if it were fitting for such poor finite creatures as we are to pronounce on what infinite wisdom and goodness could do, I think we might say that God himself cannot choose what is not good. The freedom of the Almighty does not prevent his being determined by what is best.

A constant determination to a pursuit of happiness no abridgment of liberty.—But to give a right view of this misunderstood part of liberty, let me ask: "Would anyone choose to be severely intellectually disabled, because such a person is less determined by wise considerations than a wise man is?

Is it worth the name of freedom to be at liberty to play the fool and bring shame and misery on oneself?" If breaking loose from the guidance of reason, and lacking the restraint of examination and judgment that keeps us from choosing or doing the worse, is liberty, true liberty, then the mentally ill and fools are the only free men. But I think nobody would choose to lose his mind for the sake of such liberty, except someone who has already lost it. The constant desire for happiness, and the constraint it puts on us to act for it, nobody, I think, counts as a curtailment of liberty, or at least not one worth complaining about.

God Almighty himself is under the necessity of being happy, and the more any intelligent being is so, the nearer it approaches infinite perfection and happiness. So that we shortsighted creatures, in this state of ignorance, might not mistake true happiness, we have been given a power to suspend any particular desire and keep it from determining the will and engaging us in action. This is standing still where we are not sure enough of the way. Examination is consulting a guide.

The determination of the will after inquiry is following that guide's direction. And whoever has the power to act or not act as such a determination directs is a free agent; such determination does not curtail the power in which liberty consists. A man whose chains have been knocked off, and for whom the prison doors have been thrown open, is perfectly at liberty, because he may either go or stay as he likes best. This holds even if his preference is determined to stay by the darkness of the

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or illness of the weather, or want of other lodging. He ceases not to be free, though the desire of some convenience to be had there absolutely determines his preference, and makes him stay in his prison.

2.21.51 *The necessity of pursuing true happiness the foundation of liberty.*—As therefore the highest perfection of intellectual nature lies in a careful and constant pursuit of true and solid happiness, so the care of ourselves, that we mistake not imaginary for real happiness, is the necessary foundation of our liberty.

The stronger ties we have to an unalterable pursuit of happiness in general, which is our greatest good, and which, as such, our desires always follow, the more are we free from any necessary determination of our will to any particular action, and from a necessary compliance with our desire, set upon any particular and then appearing preferable good, till we have duly examined whether it has a tendency to, or be inconsistent with, our real happiness: and therefore till we are so much informed upon this inquiry as the weight of the matter and the nature of the case demands, we are, by the necessity of preferring and pursuing true happiness as our greatest good, obliged to suspend the satisfaction of our desires in particular cases.

2.21.52 *The reason of it.*—This is the hinge on which turns the liberty of intellectual beings, in their constant endeavours after, and a steady prosecution of true felicity, that they can suspend this prosecution in particular cases, till they had looked before them, and informed themselves whether that particular thing, which is then proposed or desired, lie in the way to their main end, and make a real part of that which is their greatest good; for the inclination and tendency of their nature to happiness is an obligation and motive to them to take care not to mistake or miss it: and so necessarily puts them upon caution, deliberation, and wariness, in the direction of their particular actions, which are the means to obtain it.

Whatever necessity determines to the pursuit of real bliss, the same necessity with the same force establishes suspense, deliberation, and scrutiny of each successive desire, whether the

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night, or bad weather, or lack of other lodging. He does not cease to be free, even though the desire for some convenience to be had there absolutely determines his preference and makes him stay in his prison.

The necessity of pursuing true happiness the foundation of liberty.—The highest perfection of intellectual nature, then, lies in a careful and constant pursuit of true and solid happiness. Correspondingly, the care we take not to mistake imaginary happiness for real happiness is the necessary foundation of our liberty.

The stronger the ties that bind us to an unalterable pursuit of happiness in general, which is our greatest good and which our desires, as such, always follow, the freer we are from any necessary determination of our will to a particular action. We are also freer from a necessary compliance with our desire when it is set on some particular good that appears preferable at the time, until we have duly examined whether it tends toward our real happiness or is inconsistent with it. And therefore, until we are as well informed on this question as the weight of the matter and the nature of the case require, we are obliged, by the necessity of preferring and pursuing true happiness as our greatest good, to suspend the satisfaction of our desires in particular cases.

The reason of it.—This is the hinge on which the liberty of intellectual beings turns, in their constant efforts toward, and steady pursuit of, true happiness: they can suspend this pursuit in particular cases until they have looked ahead and informed themselves whether the particular thing then proposed or desired lies on the way to their main end and makes up a real part of their greatest good. For the inclination and tendency of their nature toward happiness is an obligation and motive for them to take care not to mistake or miss it. And so it necessarily makes them cautious, deliberate, and wary in directing their particular actions, which are the means of obtaining it.

Whatever necessity determines us to pursue real bliss, that same necessity, with the same force, establishes suspension, deliberation, and scrutiny of each successive desire, to see whether satisfying it

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satisfaction of it does not interfere with our true happiness, and mislead us from it.

This, as seems to me, is the great privilege of finite intellectual beings; and I desire it may be well considered, whether the great inlet and exercise of all the liberty men have, are capable of, or can be useful to them, and that whereon depends the turn of their actions, does not lie in this, that they can suspend their desires, and stop them from determining their wills to any action, till they have duly and fairly examined the good and evil of it, as far forth as the weight of the thing requires. This we are able to do; and when we have done it, we have done our duty, and all that is in our power, and indeed all that needs.

For since the will supposes knowledge to guide its choice, all that we can do is to hold our wills undetermined till we have examined the good and evil of what we desire, what follows after that, follows in a chain of consequences linked one to another, all depending on the last determination of the judgment; which, whether it shall be upon a hasty and precipitate view, or upon a due and mature examination, is in our power: experience showing us, that in most cases we are able to suspend the present satisfaction of any desire.

2.21.53 *Government of our passions the right improvement of liberty.*—But if any extreme disturbance (as sometimes it happens) possesses our whole mind, as when the pain of the rack, an impetuous uneasiness, as of love, anger, or any other violent passion, running away with us, allows us not the liberty of thought, and we are not masters enough of our own minds to consider thoroughly and examine fairly; God, who knows our frailty, pities our weakness, and requires of us no more than we are able to do, and sees what was and what was not in our power, will judge as a kind and merciful father.

But the forbearance of a too hasty compliance with our desires, the moderation and restraint of our passions, so that our understandings may be free to examine, and reason unbiassed gives its judgment, being that whereon a right direction of our conduct to true happiness depends; it is in this we should employ our chief care and endeavours.

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interferes with our true happiness and leads us away from it.

This, it seems to me, is the great privilege of finite intellectual beings. I ask that it be carefully considered whether the great entrance to, and exercise of, all the liberty men have, are capable of, or can find useful, and that on which the course of their actions depends, does not lie in this: that they can suspend their desires and stop them from determining their wills to any action until they have duly and fairly examined its good and evil, as far as the weight of the matter requires. This we are able to do. And when we have done it, we have done our duty and all that is in our power, and indeed all that is needed.

For since the will presupposes knowledge to guide its choice, all we can do is hold our wills undetermined until we have examined the good and evil of what we desire. What follows after that follows in a chain of consequences linked one to another, all depending on the final determination of the judgment. Whether that determination is made on a hasty and rash view or on a due and mature examination is in our power, since experience shows us that in most cases we are able to suspend the present satisfaction of any desire.

Government of our passions the right improvement of liberty.—But sometimes some extreme disturbance takes possession of our whole mind, as when the pain of the rack, or an impetuous uneasiness such as love, anger, or any other violent passion, runs away with us. It leaves us no liberty of thought, and we are not masters enough of our own minds to consider thoroughly and examine fairly. In such a case God, who knows our frailty, pities our weakness, requires of us no more than we are able to do, and sees what was and what was not in our power, will judge as a kind and merciful father.

But a right direction of our conduct toward true happiness depends on refraining from too hasty a compliance with our desires, and on moderating and restraining our passions, so that our understandings may be free to examine and reason may give its judgment without bias. It is here that we should employ our chief care and effort.

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In this we should take pains to suit the relish of our minds to the true intrinsic good or ill that is in things, and not permit an allowed or supposed possible great and weighty good to slip out of our thoughts, without leaving any relish, any desire of itself there, till, by a due consideration of its true worth, we have formed appetites in our minds suitable to it, and made ourselves uneasy in the want of it, or in the fear of losing it. And how much this is in every one's power, by making resolutions to himself such as he may keep, is easy for every one to try.

Nor let any one say he cannot govern his passions, nor hinder them from breaking out, and carrying him into action; for what he can do before a prince, or a great man, he can do alone, or in the presence of God, if he will.

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Here we should take pains to fit the relish of our minds to the true intrinsic good or ill in things. We should not let a great and weighty good, admitted or supposed to be possible, slip out of our thoughts without leaving any relish for it, any desire for it, there. We should keep it in view until, by due consideration of its true worth, we have formed appetites in our minds suited to it, and made ourselves uneasy at lacking it or at the fear of losing it. And how far this is in everyone's power, by making resolutions he is able to keep, anyone can easily try for himself.

Nor let anyone say that he cannot govern his passions, or stop them from breaking out and carrying him into action. For what he can do in front of a prince or a great man, he can do alone, or in the presence of God, if he wants to.

WHY MEN CHOOSE ILL

Men place happiness in different things, and wrong judgments of future good lead them astray.

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2.21.54 *How men come to pursue different courses.*—From what has been said, it is easy to give an account how it comes to pass, that though all men desire happiness, yet their wills carry them so contrarily, and yet consequently some of them do what is evil. And to this I say, that the various and contrary choices that men make in the world do not argue that they do not all pursue good: but that the same thing is not good to every man alike. This variety of pursuits shows that every one does not place his happiness in the same thing, or choose the same way to it.

Were all the concerns of man terminated in this life, why one followed study and knowledge, and another hawking and hunting; why one chose luxury and debauchery, and another sobriety and riches, would not be, because every one of these did not aim at his own happiness, but because their happiness was placed in different things. And therefore it was a right answer of the physician to his patient that had sore eyes: if you have more pleasure in the taste of wine than in the use of your sight, wine is good for you; but if the pleasure of seeing be greater to you than that of drinking, wine is naught.

2.21.55

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How men come to pursue different courses.—From what has been said, it is easy to explain how it happens that, though all men desire happiness, their wills carry them in such opposite directions, and some of them therefore do what is evil. To this I say that the various and contrary choices men make in the world do not show that they are not all pursuing good. They show that the same thing is not equally good for every man. This variety of pursuits shows that not everyone places his happiness in the same thing, or chooses the same way to it.

If all of man's concerns ended with this life, then the reason why one man followed study and knowledge and another hawking and hunting, why one chose luxury and debauchery and another sobriety and riches, would not be that some of them were not aiming at their own happiness. It would be that their happiness was placed in different things. And so the physician gave the right answer to his patient with sore eyes: "If you get more pleasure from the taste of wine than from the use of your sight, wine is good for you. But if the pleasure of seeing is greater to you than that of drinking, wine is bad for you."

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The mind has a different relish, as well as the palate; and you will as fruitlessly endeavour to delight all men with riches or glory (which yet some men place their happiness in) as you would to satisfy all men's hunger with cheese or lobsters: which though very agreeable and delicious fare to some, are to others extremely nauseous and offensive: and many people would with reason prefer the griping of an hungry belly to those dishes which are a feast to others.

Hence it was, I think, that the philosophers of old did in vain inquire, whether *summum bonum* consisted in riches, or bodily delights, or virtue, or contemplation: and they might have as reasonably disputed whether the best relish were to be found in apples, plums, or nuts, and have divided themselves into sects upon it. For as pleasant tastes depend not on the things themselves, but their agreeableness to this or that particular palate, wherein there is great variety; so the greatest happiness consists in the having those things which produce the greatest pleasure, and in the absence of those which cause any disturbance, any pain. Now these, to different men, are very different things.

If therefore men in this life only have hope, if in this life they can only enjoy, it is not strange nor unreasonable that they should seek their happiness by avoiding all things that disease them here, and by pursuing all that delight them; wherein it will be no wonder to find variety and difference. For if there be no prospect beyond the grave, the inference is certainly right, "let us eat and drink," let us enjoy what we delight in, "for tomorrow we shall die." This, I think, may serve to show us the reason why, though all men's desires tend to happiness, yet they are not moved by the same object.

Men may choose different things, and yet all choose right; supposing them only like a company of poor insects, whereof some are bees, delighted with flowers and their sweetness; others beetles, delighted with other kinds of viands, which having enjoyed for a season, they would cease to be, and exist no more for ever.

2.21.56 *How men come to choose ill.*—These things, duly weighed, will give us, as I think, a clear view into

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The mind has different tastes, just as the palate does. You will try in vain to delight all men with riches or glory (in which some men do place their happiness), just as you would try in vain to satisfy all men's hunger with cheese or lobster. These are very agreeable and delicious fare to some, but to others extremely nauseating and offensive. And many people would, with reason, prefer the pangs of an empty stomach to those dishes that are a feast to others.

This is why, I think, the philosophers of old inquired in vain whether the *summum bonum*, the highest good, consisted in riches, or bodily delights, or virtue, or contemplation. They might just as reasonably have argued over whether the best taste was to be found in apples, plums, or nuts, and split into sects over it. For pleasant tastes do not depend on the things themselves but on their agreeableness to this or that particular palate, and palates vary greatly. In the same way, the greatest happiness consists in having the things that produce the greatest pleasure, and in the absence of those that cause any disturbance, any pain. And to different men these are very different things.

If, therefore, men have hope in this life only, if they can enjoy only in this life, it is neither strange nor unreasonable that they should seek their happiness by avoiding everything that troubles them here and pursuing everything that delights them. And it will be no wonder to find variety and difference in this. For if there is no prospect beyond the grave, the inference is certainly right: "let us eat and drink," let us enjoy what we delight in, "for tomorrow we shall die." This, I think, may serve to show us why, though all men's desires tend toward happiness, they are not moved by the same object.[49]

Men may choose different things and yet all choose rightly, if we suppose them to be only like a swarm of poor insects. Some of them are bees, delighted with flowers and their sweetness; others are beetles, delighted with other kinds of food. Having enjoyed these for a season, they would cease to be, and would exist no more forever.

How men come to choose ill.—These things, duly weighed, will, I think, give us a clear view of the

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the state of human liberty. Liberty, it is plain, consists in a power to do, or not to do; to do, or forbear doing, as we will. This cannot be denied. But this seeming to comprehend only the actions of a man consecutive to volition, it is farther inquired, "whether he be at liberty to will, or no." And to this it has been answered, that in most cases a man is not at liberty to forbear the act of volition; he must exert an act of his will, whereby the action proposed is made to exist, or not to exist.

But yet there is a case wherein a man is at liberty in respect of willing, and that is the choosing of a remote good as an end to be pursued. Here a man may suspend the act of his choice from being determined for or against the thing proposed, till he has examined whether it be really of a nature in itself, and consequences to make him happy, or no. For when he has once chosen it, and thereby it is become a part of his happiness, it raises desire, and that proportionably gives him uneasiness, which determines his will, and sets him at work in pursuit of his choice on all occasions that offer.

And here we may see how it comes to pass, that a man may justly incur punishment, though it be certain that in all the particular actions that he wills, he does, and necessarily does will that which he then judges to be good. For, though his will be always determined by that which is judged good by his understanding, yet it excuses him not: because, by a too hasty choice of his own making, he has imposed on himself wrong measures of good and evil; which, however false and fallacious, have the same influence on all his future conduct as if they were true and right.

He has vitiated his own palate, and must be answerable to himself for the sickness and death that follows from it. The eternal law and nature of things must not be altered to comply with his ill-ordered choice. If the neglect or abuse of the liberty he had to examine what would really and truly make for his happiness misleads him, the miscarriages that follow on it must be imputed to his own election. He had a power to suspend his determination: it was given him that he might examine and take care of his own happiness and look that he were not deceived.

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state of human liberty. Liberty, it is plain, consists in a power to do or not to do: to do, or to forbear doing, as we will. This cannot be denied. But since this seems to cover only the actions a man performs following volition, it is further asked “whether he is at liberty to will or not.” To this it has been answered that in most cases a man is not at liberty to forbear the act of volition. He must exert an act of his will, by which the proposed action is made to exist or not to exist.

But there is one case in which a man is at liberty with respect to willing, and that is in choosing a remote good as an end to be pursued. Here a man may suspend his choice from being determined for or against the thing proposed until he has examined whether it really is, in its own nature and consequences, such as to make him happy. For once he has chosen it, and it has thereby become a part of his happiness, it raises desire. That desire gives him a proportionate uneasiness, which determines his will and sets him to work pursuing his choice on every occasion that offers.

And here we can see how a man may justly incur punishment, even though it is certain that in every particular action he wills, he does, and necessarily does, will what he then judges to be good. His will is always determined by what his understanding judges good, but that does not excuse him. By a too hasty choice of his own making he has imposed on himself wrong measures of good and evil. However false and deceptive these measures are, they have the same influence on all his future conduct as if they were true and right.

He has spoiled his own palate, and must answer to himself for the sickness and death that follow from it. The eternal law and nature of things is not to be altered to suit his badly ordered choice. If his neglect or abuse of the liberty he had to examine what would really and truly make for his happiness misleads him, the failures that follow must be charged to his own choosing. He had a power to suspend his determination. It was given him so that he might examine and take care of his own happiness, and see to it that he was not deceived.

49 Echoes of 1 Corinthians 15:19 and 15:32 (itself quoting Isaiah 22:13).

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And he could never judge that it was better to be deceived than not, in a matter of so great and near concernment.

What has been said may also discover to us the reason why men in this world prefer different things, and pursue happiness by contrary courses. But yet, since men are always constant, and in earnest, in matters of happiness and misery, the question still remains, how men come often to prefer the worse to the better; and to choose that which, by their own confession, has made them miserable?

2.21.57 To account for the various and contrary ways men take, though all aim at being happy, we must consider whence the various uneasinesses, that determine the will in the preference of each voluntary action, have their rise.

From bodily pains.—1. Some of them come from causes not in our power: such as are often the pains of the body from want, disease, or outward injuries, as the rack, &c. which when present and violent, operate for the most part forcibly on the will, and turn the courses of men's lives from virtue, piety, and religion, and what before they judged to lead to happiness; every one not endeavouring, or through disuse not being able, by the contemplation of remote and future good, to raise in himself desires of them strong enough to counterbalance the uneasiness he feels in those bodily torments, and to keep his will steady in the choice of those actions which lead to future happiness.

A neighbour country has been of late a tragical theatre, from which we might fetch instances, if there needed any, and the world did not in all countries and ages furnish examples enough to confirm that received observation, "*necessitas cogit ad turpia;*" and therefore there is great reason for us to pray, "lead us not into temptation."

From wrong desires arising from wrong judgment.—Other uneasinesses arise from our desires of absent good; which desires always bear proportion to, and depend on, the judgment we

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And he could never judge that it was better to be deceived than not, in a matter of such great and immediate concern.

What has been said may also show us why men in this world prefer different things and pursue happiness by opposite courses. Yet men are always constant and in earnest in matters of happiness and misery, so the question still remains: how do men so often come to prefer the worse to the better, and to choose what, by their own admission, has made them miserable?

All men aim at being happy, yet they take various and opposite ways. To account for this, we must consider where the various uneasinesses that determine the will in preferring each voluntary action come from.

From bodily pains.—1. Some of them come from causes not in our power, as bodily pains often do: from want, from disease, or from outward injuries such as the rack. When these are present and violent, they mostly act forcibly on the will. They turn the course of men's lives away from virtue, piety, and religion, and from what those men had earlier judged to lead to happiness. For not everyone makes the effort, or, from lack of practice, is able, to raise in himself desires for remote and future good by contemplating it. He needs desires strong enough to counterbalance the uneasiness he feels in those bodily torments, and to keep his will steady in choosing the actions that lead to future happiness.

A neighboring country has lately been a tragic stage from which we could draw instances, if any were needed. None are needed, since the world in every country and age furnishes examples enough to confirm the familiar observation "*necessitas cogit ad turpia*" (necessity drives men to shameful things). And so we have great reason to pray, "Lead us not into temptation."[50]

From wrong desires arising from wrong judgment.—Other uneasinesses arise from our desires for absent good. These desires are always proportioned to, and depend on, the judgment we make of any

50 The neighboring country is France, where Protestants were persecuted and forced to convert after the revocation of the Edict of Nantes in 1685. The prayer is from the Lord's Prayer (Matthew 6:13).

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make, and the relish we have of any absent good: in both which we are apt to be variously misled, and that by our own fault.

2.21.58 *Our judgment of present good or evil always right.*—2. In the first place I shall consider the wrong judgments men make of future good and evil, whereby their desires are misled. For, as to present happiness and misery, when that alone comes into consideration, and the consequences are quite removed, a man never chooses amiss; he knows what best pleases him, and that he actually prefers. Things in their present enjoyment are what they seem; the apparent and real good are, in this case, always the same: for the pain or pleasure being just so great, and no greater than it is felt, the present good or evil is really so much as it appears.

And, therefore, were every action of ours concluded within itself, and drew no consequences after it, we should undoubtedly never err in our choice of good; we should always infallibly prefer the best. Were the pains of honest industry and of starving with hunger and cold, set together before us, nobody would be in doubt which to choose: were the satisfaction of a lust, and the joys of heaven, offered at once to any one's present possession, he would not balance or err in the determination of his choice.

2.21.59 But since our voluntary actions carry not all the happiness and misery that depend on them along with them in their present performance, but are the precedent causes of good and evil, which they draw after them, and bring upon us, when they themselves are passed and cease to be; our desires look beyond our present enjoyments, and carry the mind out to absent good, according to the necessity which we think there is of it to the making or increase of our happiness. It is our opinion of such a necessity that gives it its attraction: without that we are not moved by absent good.

For in this narrow scantling of capacity, which we are accustomed to and sensible of here, wherein we enjoy but one pleasure at once, which, when all uneasiness is away, is, whilst it lasts, sufficient to make us think ourselves happy, it is not all remote, and even apparent good, that affects us. Because the indolency and enjoyment we have

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absent good and the taste we have for it. In both of these we are apt to be misled in various ways, and by our own fault.

Our judgment of present good or evil always right.—2. First I shall consider the wrong judgments men make of future good and evil, by which their desires are misled. As to present happiness and misery, when that alone is taken into account and consequences are entirely set aside, a man never chooses wrongly. He knows what pleases him best, and that is what he actually prefers. Things in present enjoyment are what they seem. In this case the apparent good and the real good are always the same. The pain or pleasure is exactly as great as it is felt to be, and no greater, so the present good or evil really is as much as it appears.

So if every action of ours were complete in itself and drew no consequences after it, we would undoubtedly never err in our choice of good. We would always infallibly prefer the best. If the pains of honest work and the pains of starving from hunger and cold were set before us side by side, nobody would be in doubt which to choose. If the satisfaction of a lust and the joys of heaven were offered together for anyone's present possession, he would not hesitate or err in making his choice.

But our voluntary actions do not carry with them, at the moment we perform them, all the happiness and misery that depend on them. They are the prior causes of good and evil, which they draw after them and bring upon us when they themselves are past and gone. So our desires look beyond our present enjoyments and carry the mind out toward absent good, according to how necessary we think that good is for making or increasing our happiness. It is our opinion of this necessity that gives absent good its attraction. Without that opinion, absent good does not move us.

Consider the narrow allowance of capacity that we are used to and aware of here. We enjoy only one pleasure at a time, and that pleasure, once all uneasiness is gone, is enough while it lasts to make us think ourselves happy. In this condition it is not every remote good, not even every visible good, that affects us. Our freedom from pain and our

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sufficing for our present happiness, we desire not to venture the change; since we judge that we are happy already, being content, and that is enough. For who is content, is happy. But as soon as any new uneasiness comes in, this happiness is disturbed, and we are set afresh on work in the pursuit of happiness.

2.21.60 *From a wrong judgment of what makes a necessary part of their happiness.*—Their aptness therefore to conclude that they can be happy without it, is one great occasion that men often are not raised to the desire of the greatest absent good. For whilst such thoughts possess them, the joys of a future state move them not; they have little concern or uneasiness about them; and the will, free from the determination of such desires, is left to the pursuit of nearer satisfactions, and to the removal of those uneasinesses which it then feels, in its want of and longings after them.

Change but a man's view of these things; let him see that virtue and religion are necessary to his happiness, let him look into the future state of bliss or misery, and see there God, the righteous judge, ready to "render to every man according to his deeds; to them who by patient continuance in well-doing seek for glory, and honour, and immortality, eternal life; but unto every soul that doth evil, indignation and wrath, tribulation and anguish;" to him, I say, who hath a prospect of the different state of perfect happiness or misery that attends all men after this life, depending on their behaviour here, the measures of good and evil, that govern his choice, are mightily changed.

For since nothing of pleasure and pain in this life can bear any proportion to the endless happiness, or exquisite misery, of an immortal soul hereafter, actions in his power will have their preference, not according to the transient pleasure or pain that accompanies or follows them here, but as they serve to secure that perfect durable happiness hereafter.

2.21.61 *A more particular account of wrong judgments.*—But to account more particularly for the misery that men often bring on themselves, notwithstanding that they do all in earnest pursue happiness, we must consider how things come to be represented

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present enjoyment are enough for our present happiness, so we do not wish to risk a change. We judge that we are already happy, being content, and that is enough, for whoever is content is happy. But as soon as some new uneasiness comes in, this happiness is disturbed, and we are set to work afresh in the pursuit of happiness.

From a wrong judgment of what makes a necessary part of their happiness.—So men's readiness to conclude that they can be happy without it is one great reason why they often are not stirred to desire the greatest absent good. While such thoughts possess them, the joys of a future state do not move them, and they feel little concern or uneasiness about them. The will, free from being determined by such desires, is left to pursue nearer satisfactions, and to remove the uneasinesses it then feels in lacking and longing for them.

Only change a man's view of these things. Let him see that virtue and religion are necessary to his happiness. Let him look into the future state of bliss or misery and see there God, the righteous judge, ready "to render to every man according to his deeds: to them who by patient continuance in well-doing seek for glory and honor and immortality, eternal life; but unto every soul that does evil, indignation and wrath, tribulation and anguish." Such a man has in view the different states of perfect happiness or misery that await all men after this life, depending on how they behave here. For him, I say, the measures of good and evil that govern his choice are greatly changed.[51]

No pleasure or pain in this life can bear any proportion to the endless happiness or extreme misery of an immortal soul hereafter. So the actions in his power will be preferred according to how well they serve to secure that perfect, lasting happiness hereafter, and not according to the passing pleasure or pain that accompanies or follows them here.

A more particular account of wrong judgments.—Men are all in earnest pursuit of happiness, yet they often bring misery on themselves. To account for this more particularly, we must consider how things come to be presented to our desires under

51 Romans 2:6–9.

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to our desires, under deceitful appearances; and that is by the judgment pronouncing wrongly concerning them. To see how far this reaches, and what are the causes of wrong judgment, we must remember that things are judged good or bad in a double sense.

First, That which is properly good or bad, is nothing but barely pleasure or pain.

Secondly, But because not only present pleasure and pain, but that also which is apt by its efficacy or consequences to bring it upon us at a distance, is a proper object of our desires, and apt to move a creature that has foresight: therefore things also that draw after them pleasure and pain are considered as good and evil.

2.21.62 The wrong judgment that misleads us, and makes the will often fasten on the worse side, lies in misreporting upon the various comparisons of these. The wrong judgment I am here speaking of, is not what one man may think of the determination of another, but what every man himself must confess to be wrong. For since I lay it for a certain ground that every intelligent being really seeks happiness, which consists in the enjoyment of pleasure, without any considerable mixture of uneasiness; it is impossible any one should willingly put into his own draught any bitter ingredient, or leave out any thing in his power that would tend to his satisfaction, and the completing of his happiness, but only by wrong judgment.

I shall not here speak of that mistake, which is the consequence of invincible error, which scarce deserves the name of wrong judgment; but of that wrong judgment which every man himself must confess to be so.

2.21.63 *In comparing present and future.*—If, therefore, as to present pleasure and pain, the mind, as has been said, never mistakes that which is really good or evil; that which is the greater pleasure, or the greater pain, is really just as it appears. But though present pleasure and pain show their difference and degrees so plainly as not to leave room for mistake, yet when we compare present pleasure or pain with future (which is usually the case in the most important determinations of the will,) we often make wrong judgments of them,

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deceptive appearances. That happens when the judgment pronounces wrongly about them. To see how far this reaches, and what the causes of wrong judgment are, we must remember that things are judged good or bad in two senses.

First, what is properly good or bad is nothing but simply pleasure or pain.

Second, present pleasure and pain are not the only proper objects of our desires. Whatever is apt, by its effect or consequences, to bring pleasure or pain upon us at a distance is also a proper object of desire, and is apt to move a creature that has foresight. So things that draw pleasure and pain after them are also considered good and evil.

The wrong judgment that misleads us, and often makes the will fasten on the worse side, lies in giving a false report of the various comparisons among these. The wrong judgment I am speaking of here is not what one man may think of another's determination. It is what every man must himself admit to be wrong. I take it as a sure foundation that every intelligent being really seeks happiness, which consists in the enjoyment of pleasure without any considerable mixture of uneasiness. So it is impossible that anyone should willingly put a bitter ingredient into his own drink, or leave out anything in his power that would contribute to his satisfaction and the completion of his happiness, except through wrong judgment.

I shall not speak here of the mistake that results from invincible error, which hardly deserves the name of wrong judgment. I shall speak of the wrong judgment that every man must himself admit to be so.

In comparing present and future.—As to present pleasure and pain, then, the mind, as has been said, never mistakes what is really good or evil. The greater pleasure or the greater pain really is just as it appears. Present pleasure and pain show their difference and degrees so plainly that they leave no room for mistake. But we often judge wrongly when we compare present pleasure or pain with future pleasure or pain, which is usually the case in the most important determinations of

taking our measures of them in different positions of distance.

Objects near our view are apt to be thought greater than those of a larger size that are more remote: and so it is with pleasures and pains, the present is apt to carry it, and those at a distance have the disadvantage in the comparison. Thus most men, like spendthrift heirs, are apt to judge a little in hand better than a great deal to come: and so, for small matters in possession, part with greater ones in reversion.

But that this is a wrong judgment every one must allow, let his pleasure consist in whatever it will: since that which is future will certainly come to be present; and then, having the same advantage of nearness, will show itself in its full dimensions, and discover his wilful mistake, who judged of it by unequal measures.

Were the pleasure of drinking accompanied, the very moment a man takes off his glass, with that sick stomach and aching head, which, in some men, are sure to follow not many hours after, I think nobody, whatever pleasure he had in his cups, would, on these conditions, ever let wine touch his lips; which yet he daily swallows, and the evil side comes to be chosen only by the fallacy of a little difference in time. But if pleasure or pain can be so lessened only by a few hours' removal, how much more will it be so by a farther distance, to a man that will not by a right judgment do what time will, i.

e. bring it home upon himself, and consider it as present, and there take its true dimensions! This is the way we usually impose on ourselves, in respect of bare pleasure and pain, or the true degrees of happiness or misery: the future loses its just proportion, and what is present obtains the preference as the greater. I mention not here the wrong judgment, whereby the absent are not only lessened, but reduced to perfect nothing; when men enjoy what they can in present, and make sure of that, concluding amiss that no evil will thence follow.

For that lies not in comparing the greatness of future good and evil, which is that we are here speaking of, but in another sort of wrong judgment, which is concerning good or evil, as it is considered to be the cause and procurement of pleasure or pain, that will follow from it.

the will. We take their measure from different distances.

Objects near at hand tend to be thought larger than bigger ones farther away, and so it is with pleasures and pains. The present tends to win, and those at a distance are at a disadvantage in the comparison. So most men, like spendthrift heirs, tend to judge a little in hand better than a great deal to come. For small things they possess now, they give up greater things they would come into later.

But everyone must allow that this is a wrong judgment, whatever his pleasure may consist in. What is future will certainly become present. Then, having the same advantage of nearness, it will show itself in its full size, and it will expose the willful mistake of the man who judged it by unequal measures.

Suppose the pleasure of drinking were accompanied, the very moment a man empties his glass, by the sick stomach and aching head that in some men are sure to follow not many hours later. On those terms, I think, nobody would ever let wine touch his lips, however much pleasure he took in drinking. Yet he swallows it daily, and the bad side is chosen only through the illusion created by a small difference in time. If pleasure or pain can be so diminished merely by being a few hours away, it will be diminished far more by a greater distance. That is the case for a man who will not do by right judgment what time will do—that is,

bring it home to himself, consider it as present, and take its true measure there! This is how we usually deceive ourselves with regard to simple pleasure and pain, or the true degrees of happiness or misery. The future loses its proper proportion, and what is present wins the preference as the greater. I am not speaking here of the wrong judgment by which absent things are not merely diminished but reduced to nothing at all. That happens when men enjoy what they can in the present and make sure of that, wrongly concluding that no evil will follow from it.

That judgment does not lie in comparing the size of future good and evil, which is what we are speaking of here. It is another sort of wrong judgment, one about good or evil considered as the

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Cause of this.—The cause of our judging amiss, when we compare our present pleasure or pain with future, seems to me to be the weak and narrow constitution of our minds. We cannot well enjoy two pleasures at once, much less any pleasure almost whilst pain possesses us.

The present pleasure, if it be not very languid, and almost none at all, fills our narrow souls, and so takes up the whole mind that it scarce leaves any thought of things absent; or if, among our pleasures, there are some which are not strong enough to exclude the consideration of things at a distance; yet we have so great an abhorrence of pain, that a little of it extinguishes all our pleasure; a little bitter mingled in our cup leaves no relish of the sweet.

Hence it comes that at any rate we desire to be rid of the present evil, which we are apt to think nothing absent can equal; because, under the present pain, we find not ourselves capable of any the least degree of happiness. Men's daily complaints are a loud proof of this: the pain that any actually feels is still of all other the worst; and it is with anguish they cry out, "Any rather than this; nothing can be so intolerable as what I now suffer." And therefore our whole endeavours and thoughts are intent to get rid of the present evil, before all things, as the first necessary condition to our happiness, let what will follow.

Nothing, as we passionately think, can exceed, or almost equal, the uneasiness that sits so heavy upon us. And because the abstinence from a present pleasure that offers itself is a pain, nay oftentimes a very great one, the desire being inflamed by a near and tempting object, it is no wonder that that operates after the same manner pain does, and lessens in our thoughts what is future; and so forces us, as it were, blindfold into its embraces.

Add to this, that absent good, or which is the same thing, future pleasure, especially if of a sort we are unacquainted with, seldom is able to counterbalance any uneasiness, either of pain or desire, which is present.

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cause and source of the pleasure or pain that will follow from it.

Cause of this.—When we compare our present pleasure or pain with future pleasure or pain, we judge wrongly. The cause of this seems to me to be the weak and narrow constitution of our minds. We cannot well enjoy two pleasures at once, and still less can we enjoy almost any pleasure while pain possesses us.

The present pleasure, unless it is very faint and almost nothing at all, fills our narrow souls. It takes up the whole mind so completely that it hardly leaves any thought of absent things. Some of our pleasures may not be strong enough to shut out the consideration of things at a distance. But we have such a great horror of pain that a little of it extinguishes all our pleasure: a little bitterness mixed into our cup leaves no taste of the sweet.

Hence we want to be rid of the present evil at any cost, and we tend to think that nothing absent can equal it. While the present pain lasts, we find ourselves incapable of even the slightest degree of happiness. Men's daily complaints are loud proof of this. The pain anyone actually feels is always the worst of all, and it is in anguish that they cry out, "Anything rather than this! Nothing can be as unbearable as what I am suffering now." And so all our efforts and thoughts are bent on getting rid of the present evil before anything else, whatever may follow, as the first necessary condition of our happiness.

Nothing, as we passionately think, can exceed or even nearly equal the uneasiness that weighs so heavily on us. Abstaining from a present pleasure that offers itself is a pain, and it is often a very great one when desire is inflamed by a near and tempting object. So it is no wonder that this abstinence acts in the same way pain does. It shrinks the future in our thoughts, and so forces us, as it were, blindfold into the pleasure's embrace.

Add to this that absent good, which is the same thing as future pleasure, is seldom able to counterbalance any present uneasiness, whether of pain or of desire. This is especially so if the good is of a kind we are unacquainted with.

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For its greatness being no more than what shall be really tasted when enjoyed, men are apt enough to lessen that, to make it give place to any present desire; and conclude with themselves, that when it comes to trial, it may possibly not answer the report or opinion that generally passes of it; they having often found, that not only what others have magnified, but even what they themselves have enjoyed with great pleasure and delight at one time, has proved insipid or nauseous at another; and therefore they see nothing in it for which they should forego a present enjoyment.

But that this is a false way of judging, when applied to the happiness of another life, they must confess; unless they will say, "God cannot make those happy he designs to be so." For that being intended for a state of happiness, it must certainly be agreeable to every one's wish and desire: could we suppose their relishes as different there, as they are here, yet the manna in heaven will suit every one's palate. Thus much of the wrong judgment we make of present and future pleasure and pain, when they are compared together, and so the absent considered as future.

2.21.66 *In considering consequences of actions.*—As to things good or bad in their consequences, and by the aptness that is in them to procure us good or evil in the future, we judge amiss several ways.

1. When we judge that so much evil does not really depend on them, as in truth there does.

2. When we judge, that though the consequence be of that moment, yet it is not of that certainty but that it may otherwise fall out, or else by some means be avoided, as by industry, address, change, repentance, &c. That these are wrong ways of judging, were easy to show in every particular, if I would examine them at large singly: but I shall only mention this in general, viz. that it is a very wrong and irrational way of proceeding, to venture a greater good for a less, upon uncertain guesses, and before a due examination be made proportionable to the

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Its greatness is no more than what will actually be tasted when it is enjoyed, so men are ready enough to shrink it until it gives way to any present desire. They tell themselves that when it comes to the test it may not live up to the report or opinion generally held of it. They have often found that things others have praised, and even things they themselves once enjoyed with great pleasure and delight, have turned out tasteless or sickening at another time. And so they see nothing in it for which they should give up a present enjoyment.

But they must admit that this is a false way of judging when it is applied to the happiness of another life, unless they will say, “God cannot make happy those he intends to be happy.” That life is intended to be a state of happiness, so it must certainly be agreeable to everyone’s wish and desire. Even if we supposed that tastes there were as different as they are here, the manna in heaven will suit everyone’s palate. So much for the wrong judgment we make of present and future pleasure and pain when they are compared together, and the absent is thus considered as future.[52]

In considering consequences of actions.—Some things are good or bad in their consequences, through their tendency to bring us good or evil in the future. About these we judge wrongly in several ways.

1. We judge wrongly when we judge that less evil depends on them than in truth does.

2. We judge wrongly when we judge that, although the consequence is that important, it is not so certain that it could not turn out otherwise. We may also judge that it could be avoided by some means, such as effort, skill, change, repentance, and so on. It would be easy to show that each of these is a wrong way of judging, if I examined each of them at length. But I shall only mention this in general, namely that it is a very wrong and irrational way to proceed to risk a greater good for a lesser one on uncertain guesses. It is especially so before we have made an examination proportioned to the

52 Alluding to the tradition that the manna given to the Israelites suited every taste (Wisdom 16:20–21).

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weightiness of the matter, and the concernment it is to us not to mistake.

This, I think, every one must confess, especially if he considers the usual causes of this wrong judgment, whereof these following are some:

2.21.67 *Causes of this.*—1. Ignorance: he that judges without informing himself to the utmost that he is capable, cannot acquit himself of judging amiss.

2. Inadvertency: when a man overlooks even that which he does know. This is an affected and present ignorance, which misleads our judgments as much as the other. Judging is, as it were, balancing an account, and determining on which side the odds lie. If therefore either side be huddled up in haste, and several of the sums that should have gone into the reckoning be overlooked and left out, this precipitancy causes as wrong a judgment as if it were a perfect ignorance. That which most commonly causes this is the prevalency of some present pleasure or pain, heightened by our feeble passionate nature, most strongly wrought on by what is present.

To check this precipitancy, our understanding and reason was given us, if we will make a right use of it, to search and see, and then judge thereupon. Without liberty, the understanding would be to no purpose: and without understanding, liberty (if it could be) would signify nothing. If a man sees what would do him good or harm, what would make him happy or miserable, without being able to move himself one step towards or from it, what is he the better for seeing? And he that is at liberty to ramble in perfect darkness, what is his liberty better than if he were driven up and down as a bubble by the force of the wind?

The being acted by a blind impulse from without, or from within, is little odds. The first, therefore, and great use of liberty, is to hinder blind precipitancy; the principal exercise of freedom is to stand still, open the eyes, look about, and take a view of the consequence of what we are going to do, as much as the weight of the matter requires. How much sloth and negligence, heat and passion, the prevalency of fashion, or acquired indispositions, do severally contribute on occasion to these wrong judgments, I shall not

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weight of the matter and to how much it concerns us not to be mistaken.

This, I think, everyone must admit, especially if he considers the usual causes of this wrong judgment. Some of them are the following:

Causes of this.—1. Ignorance. He who judges without informing himself as fully as he is able cannot clear himself of judging wrongly.

2. Inadvertence, when a man overlooks even what he does know. This is a willful and present ignorance, and it misleads our judgments as much as the other kind. Judging is, as it were, balancing an account and determining on which side the balance lies. Suppose either side is hurried through in haste, and several of the sums that should have gone into the reckoning are overlooked and left out. Then this rashness causes as wrong a judgment as complete ignorance would. What most commonly causes it is the dominance of some present pleasure or pain, heightened by our feeble, passionate nature, which is most strongly worked on by what is present.

Our understanding and reason were given us to check this rashness, if we will make right use of them to search and see, and then to judge accordingly. Without liberty the understanding would serve no purpose, and without understanding, liberty (if it could exist) would mean nothing. Suppose a man sees what would do him good or harm, what would make him happy or miserable, but cannot move himself one step toward it or away from it. What is he the better for seeing? And suppose a man is at liberty to wander in perfect darkness. How is his liberty any better than if he were blown up and down like a bubble by the force of the wind?

Whether we are moved by a blind impulse from outside or from inside makes little difference. The first and great use of liberty, therefore, is to prevent blind rashness. The chief exercise of freedom is to stand still, open our eyes, look around, and take a view of the consequences of what we are about to do, as far as the weight of the matter requires. Sloth and negligence, heat and passion, the sway of fashion, and acquired bad dispositions each contribute on occasion to these wrong judgments. How much each contributes I shall not in-

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here farther inquire. I shall only add one other false judgment, which I think necessary to mention, because, perhaps, it is little taken notice of, though of great influence.

2.21.68 *Wrong judgment of what is necessary to our happiness.*—All men desire happiness, that is past doubt; but, as has been already observed, when they are rid of pain, they are apt to take up with any pleasure at hand, or that custom has endeared to them, to rest satisfied in that; and so being happy, till some new desire, by making them uneasy, disturbs that happiness, and shows them that they are not so, they look no farther; nor is the will determined to any action, in pursuit of any other known or apparent good.

For since we find that we cannot enjoy all sorts of good, but one excludes another, we do not fix our desires on every apparent greater good, unless it be judged to be necessary to our happiness; if we think we can be happy without it, it moves us not. This is another occasion to men of judging wrong, when they take not that to be necessary to their happiness which really is so.

This mistake misleads us both in the choice of the good we aim at, and very often in the means to it, when it is a remote good. But which way ever it be, either by placing it where really it is not, or by neglecting the means as not necessary to it; when a man misses his great end, happiness, he will acknowledge he judged not right. That which contributes to this mistake, is the real or supposed unpleasantness of the actions which are the way to this end; it seeming so preposterous a thing to men to make themselves unhappy in order to happiness, that they do not easily bring themselves to it.

2.21.69 *We can change the agreeableness or disagreeableness in things.*—The last inquiry therefore concerning this matter is, "whether it be in a man's power to change the pleasantness and unpleasantness that accompanies any sort of action?" And as to that, it is plain in many cases he can. Men may and should correct their palates, and give relish to what either has, or they suppose has, none. The relish of the mind is as various as that of the body, and like that too may be altered; and it is a mistake to think that men cannot change the displeasingness or indifferency that is in actions

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quire further here. I shall only add one other false judgment. I think it necessary to mention it because it has great influence, though perhaps it is little noticed.

Wrong judgment of what is necessary to our happiness.—All men desire happiness; that is beyond doubt. But, as has already been observed, once they are rid of pain they tend to settle for any pleasure at hand, or one that custom has made dear to them, and to rest satisfied with it. So they are happy until some new desire makes them uneasy, disturbs that happiness, and shows them that they are not happy after all. Until then they look no further, and the will is not determined to any action in pursuit of any other known or apparent good.

We find that we cannot enjoy every sort of good, since one excludes another. So we do not fix our desires on every apparent greater good unless it is judged necessary to our happiness. If we think we can be happy without it, it does not move us. This is another occasion for men to judge wrongly, namely when they do not take to be necessary to their happiness what really is so.

This mistake misleads us both in the choice of the good we aim at and, very often, in the means to it, when it is a remote good. Whichever way it happens, the man who misses his great end, happiness, will admit that he did not judge right. He may have placed happiness where it really is not, or he may have neglected the means as unnecessary to it. What contributes to this mistake is the real or supposed unpleasantness of the actions that are the way to this end. It seems so absurd to men to make themselves unhappy for the sake of happiness that they do not easily bring themselves to it.

We can change the agreeableness or disagreeableness in things.—The last question on this subject, then, is "whether it is in a man's power to change the pleasantness and unpleasantness that accompany any sort of action." It is plain that in many cases he can. Men can, and should, correct their palates and give a taste to what has none, or is supposed to have none. The taste of the mind is as various as that of the body, and like the body's it can be altered. Some think that men cannot turn the displeasure or indifference they find in actions into

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into pleasure and desire, if they will do but what is in their power.

A due consideration will do it in some cases; and practice, application, and custom in most. Bread or tobacco may be neglected, where they are shown to be useful to health, because of an indifferency or disrelish to them; reason and consideration at first recommend, and begin their trial, and use finds or custom makes them pleasant. That this is so in virtue too is very certain. Actions are pleasing or displeasing, either in themselves, or considered as a means to a greater and more desirable end.

The eating of a well-seasoned dish, suited to a man's palate, may move the mind by the delight itself that accompanies the eating, without reference to any other end; to which the consideration of the pleasure there is in health and strength, (to which that meat is subservient) may add a new gusto, able to make us swallow an ill-relished potion. In the latter of these, any action is rendered more or less pleasing only by the contemplation of the end, and the being more or less persuaded of its tendency to it, or necessary connexion with it: but the pleasure of the action itself is best acquired or increased by use and practice.

Trials often reconcile us to that which at a distance we looked on with aversion, and by repetitions wear us into a liking of what possibly, in the first essay displeased us. Habits have powerful charms, and put so strong attractions of easiness and pleasure into what we accustom ourselves to, that we cannot forbear to do, or at least be easy in the omission of actions, which habitual practice has suited, and thereby recommends to us.

Though this be very visible, and every one's experience shows him he can do so; yet it is a part in the conduct of men towards their happiness, neglected to a degree, that it will be possibly entertained as a paradox, if it be said, that men can make things or actions more or less pleasing to themselves; and thereby remedy that, to which one may justly impute a great deal of their wandering. Fashion and the common opinion having settled wrong notions, and education and custom ill habits, the just values of things are misplaced, and the palates of men corrupted.

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pleasure and desire. That is a mistake, if men will only do what is in their power.

Due consideration will do it in some cases, and practice, application, and custom will do it in most. Bread or tobacco may be neglected because of indifference or distaste for them, even where they are shown to be good for health. Reason and consideration first recommend them and begin the trial, and then use finds them pleasant, or custom makes them so. That the same is true of virtue is quite certain. Actions are pleasing or displeasing either in themselves, or considered as a means to a greater and more desirable end.

Eating a well-seasoned dish that suits a man's palate may move the mind by the delight that goes with eating, without reference to any other end. To this the thought of the pleasure there is in health and strength, which that food serves, may add a new relish, one strong enough to make us swallow even a nasty-tasting medicine. In the second case, an action is made more or less pleasing only by contemplating the end, and by being more or less persuaded of its tendency toward that end or its necessary connection with it. But the pleasure of the action itself is best acquired or increased by use and practice.

Trying things often reconciles us to what we looked on with aversion from a distance. Repetition wears us into a liking for what perhaps displeased us at the first attempt. Habits have powerful charms, and they put strong attractions of ease and pleasure into what we accustom ourselves to. Habitual practice fits certain actions to us and thereby recommends them to us, and then we cannot keep from doing them, or at least cannot be easy in omitting them.

This is very evident, and everyone's experience shows him that he can do it. Yet this part of men's conduct toward their happiness is so neglected that it may be received as a paradox if one says that men can make things or actions more or less pleasing to themselves. By doing so they could remedy something to which a great deal of their straying may justly be blamed. Fashion and common opinion have established wrong notions, and education and custom have established bad habits. So the true values of things are misplaced, and men's palates are corrupted.

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Pains should be taken to rectify these; and contrary habits change our pleasure, and give a relish to that which is necessary or conducive to our happiness. This every one must confess he can do; and when happiness is lost, and misery overtakes him, he will confess he did amiss in neglecting it; and condemn himself for it: and I ask every one, whether he has not often done so?

2.21.70 *Preference of vice to virtue a manifest wrong judgment.*—I shall not now enlarge any farther on the wrong judgments and neglect of what is in their power, whereby men mislead themselves. This would make a volume, and is not my business.

But whatever false notions, or shameful neglect of what is in their power, may put men out of their way to happiness, and distract them, as we see, into so different courses of life, this yet is certain, that morality, established upon its true foundations, cannot but determine the choice in any one that will but consider: and he that will not be so far a rational creature as to reflect seriously upon infinite happiness and misery, must needs condemn himself as not making that use of his understanding he should.

The rewards and punishments of another life, which the Almighty has established as the enforcements of his law, are of weight enough to determine the choice, against whatever pleasure or pain this life can show, when the eternal state is considered but in its bare possibility, which nobody can make any doubt of.

He that will allow exquisite and endless happiness to be but the possible consequence of a good life here, and the contrary state the possible reward of a bad one, must own himself to judge very much amiss if he does not conclude, that a virtuous life, with the certain expectation of everlasting bliss, which may come, is to be preferred to a vicious one, with the fear of that dreadful state of misery, which it is very possible may overtake the guilty; or at best the terrible uncertain hope of annihilation.

This is evidently so, though the virtuous life here had nothing but pain, and the vicious continual pleasure; which yet is, for the most part, quite otherwise, and wicked men have not much the odds to brag of, even in their present possession;

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Pains should be taken to correct these. Contrary habits will change our pleasure and give us a taste for what is necessary or conducive to our happiness. Everyone must admit that he can do this. When happiness is lost and misery overtakes him, he will admit that he did wrong in neglecting it, and he will condemn himself for it. And I ask everyone whether he has not often done so.

Preference of vice to virtue a manifest wrong judgment.—I shall not now enlarge any further on the wrong judgments by which men mislead themselves, or on their neglect of what is in their power. That would fill a volume, and it is not my business.

False notions, or shameful neglect of what is in their power, may lead men off the road to happiness and scatter them, as we see, into very different courses of life. Whatever the cause, this at least is certain: morality, established on its true foundations, cannot fail to determine the choice of anyone who will only consider. And he who will not be so far a rational creature as to reflect seriously on infinite happiness and misery must condemn himself for not making the use of his understanding that he should.

The Almighty has established the rewards and punishments of another life to enforce his law. They are weighty enough to determine the choice against whatever pleasure or pain this life can offer, even when the eternal state is considered only as a bare possibility, which nobody can doubt.

Suppose someone grants only that exquisite and endless happiness is a possible consequence of a good life here, and that the opposite state is a possible reward of a bad one. He must then admit that he judges very wrongly if he does not prefer a virtuous life to a vicious one. The virtuous life carries the certain expectation of everlasting bliss, which may come. The vicious life carries the fear of that dreadful state of misery which may very possibly overtake the guilty, or at best the terrible, uncertain hope of annihilation.

This is evidently so even if the virtuous life here held nothing but pain and the vicious life nothing but continual pleasure. For the most part it is quite otherwise. Wicked men have not much advantage to boast of even in what they possess now.

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nay, all things rightly considered, have, I think, even the worst part here. But when infinite happiness is put in one scale against infinite misery in the other, if the worst that comes to the pious man, if he mistakes, be the best that the wicked can attain to, if he be in the right, who can without madness run the venture?

Who in his wits would choose to come within a possibility of infinite misery, which, if he miss, there is yet nothing to be got by the hazard? Whereas, on the other side, the sober man ventures nothing against infinite happiness to be got, if his expectation comes to pass. If the good man be in the right, he is eternally happy; if he mistakes, he is not miserable; he feels nothing. On the other side, if the wicked man be in the right, he is not happy; if he mistakes, he is infinitely miserable. Must it not be a most manifest wrong judgment that does not presently see to which side, in this case, the preference is to be given?

I have forborne to mention any thing of the certainty or probability of a future state, designing here to show the wrong judgment that any one must allow he makes upon his own principles, laid how he pleases, who prefers the short pleasures of a vicious life upon any consideration, whilst he knows, and cannot but be certain, that a future life is at least possible.

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Indeed, all things rightly considered, they have, I think, the worst of it even here. But put infinite happiness in one scale and infinite misery in the other. If the pious man is mistaken, the worst that can come to him is the best that the wicked man can attain if he is right. Who could take that risk without madness?[53]

Who in his right mind would choose to put himself within the possibility of infinite misery, when there is nothing to be gained by the risk even if he escapes it? On the other side, the sober man risks nothing, and there is infinite happiness to be gained if his expectation comes true. If the good man is right, he is eternally happy. If he is mistaken, he is not miserable; he feels nothing. On the other hand, if the wicked man is right, he is not happy. If he is mistaken, he is infinitely miserable. A judgment that does not see at once which side is to be preferred in this case must surely be a most obvious wrong judgment.

I have refrained from saying anything about the certainty or probability of a future state. My purpose here is to show a wrong judgment that anyone must admit he makes on his own principles, however he sets them up. He makes it if he prefers the short pleasures of a vicious life on any consideration, while he knows, and cannot help being certain, that a future life is at least possible.

RECAPITULATION

Locke summarizes his revised account of liberty and ends with active and passive powers.

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2.21.71 *Recapitulation.*—To conclude this inquiry into human liberty, which, as it stood before, I myself from the beginning fearing, and a very judicious friend of mine, since the publication, suspecting to have some mistake in it, though he could not particularly show it me, I was put upon a stricter review of this chapter; wherein lighting upon a very easy and scarce observable slip I had made, in putting one seemingly indifferent word for another, that discovery opened to me this present view, which here, in this second edition, I submit to the learned world, and which in short is this: "Liberty is a power to act or not to act, according as the mind directs." A power to direct the

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Recapitulation.—To conclude this inquiry into human liberty: I myself feared from the beginning that the chapter, as it stood before, contained some mistake. Since its publication a very judicious friend of mine suspected the same, though he could not point out the mistake to me specifically. So I was led to review this chapter more strictly. In doing so I came upon a very slight and hardly noticeable slip I had made, in putting one seemingly neutral word for another. That discovery opened up to me the present view, which I here submit to the learned world in this second edition. In short it is this: “Liberty is a power to

53 The argument resembles Pascal’s wager in his *Pensées* (1670).

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operative faculties to motion or rest in particular instances, is that which we call the will.

That which in the train of our voluntary actions determines the will to any change of operation, is some present uneasiness; which is, or at least is always accompanied with, that of desire. Desire is always moved by evil, to fly it; because a total freedom from pain always makes a necessary part of our happiness: but every good, nay, every greater good, does not constantly move desire, because it may not make, or may not be taken to make, any necessary part of our happiness: for all that we desire is only to be happy.

But though this general desire of happiness operates constantly and invariably, yet the satisfaction of any particular desire can be suspended from determining the will to any subservient action till we have maturely examined, whether the particular apparent good, which we then desire, makes a part of our real happiness, or be consistent or inconsistent with it. The result of our judgment upon that examination is what ultimately determines the man, who could not be free if his will were determined by any thing but his own desire, guided by his own judgment. I know that liberty by some is placed in an indifferency of the man antecedent to the determination of his will.

I wish they, who lay so much stress on such an antecedent indifferency, as they call it, had told us plainly, whether this supposed indifferency be antecedent to the thought and judgment of the understanding, as well as to the decree of the will. For it is pretty hard to state it between them; i.

e. immediately after the judgment of the understanding, and before the determination of the will, because the determination of the will immediately follows the judgment of the understanding: and to place liberty in an indifferency, antecedent to the thought and judgment of the understanding, seems to me to place liberty in a state of darkness, wherein we can neither see nor say any thing of it; at least it places it in a subject incapable of it, no agent

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act or not to act, according as the mind directs." A power to direct the operative faculties to motion or rest in particular instances is what we call the will.[54]

In the course of our voluntary actions, what determines the will to any change of operation is some present uneasiness. That uneasiness is the uneasiness of desire, or is at least always accompanied by it. Desire is always moved by evil, so as to flee it, because complete freedom from pain is always a necessary part of our happiness. But not every good, not even every greater good, constantly moves desire, because it may not be, or may not be taken to be, a necessary part of our happiness. For all we desire is simply to be happy.

This general desire for happiness operates constantly and invariably. But the satisfaction of any particular desire can be suspended from determining the will to any action that serves it. It can be suspended until we have maturely examined whether the particular apparent good we then desire is part of our real happiness, or is consistent or inconsistent with it. The result of our judgment on that examination is what finally determines the man. He could not be free if his will were determined by anything but his own desire, guided by his own judgment. I know that some place liberty in an indifference of the man prior to the determination of his will.

Those who lay so much stress on this prior indifference, as they call it, should have told us plainly whether this supposed indifference comes before the thought and judgment of the understanding, as well as before the decree of the will. I wish they had. For it is rather hard to place it between the two—that is,

immediately after the judgment of the understanding and before the determination of the will —because the determination of the will follows the judgment of the understanding immediately. And to place liberty in an indifference prior to the thought and judgment of the understanding seems to me to place liberty in a state of darkness, in which we can neither see nor say anything about it. At least it places liberty in a subject incapable of it, since no agent is allowed to be capable of

54 The friend was William Molyneux.

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being allowed capable of liberty but in consequence of thought and judgment.

I am not nice about phrases, and therefore consent to say, with those that love to speak so, that liberty is placed in indifferency; but it is an indifferency which remains after the judgment of the understanding; yea, even after the determination of the will: and that is an indifferency not of the man (for after he has once judged which is best, viz.

to do or forbear, he is no longer indifferent,) but an indifferency of the operative powers of the man, which, remaining equally able to operate, or to forbear operating, after, as before, the decree of the will, are in a state which, if one pleases, may be called indifferency; and as far as this indifferency reaches, a man is free, and no farther: *v. g.* I have the ability to move my hand, or to let it rest; that operative power is indifferent to move, or not to move my hand: I am then in that respect perfectly free.

My will determines that operative power to rest, I am yet free, because the indifferency of that my operative power to act, or not to act, still remains; the power of moving my hand is not at all impaired by the determination of my will, which at present orders rest; the indifferency of that power to act, or not to act, is just as it was before, as will appear, if the will puts it to the trial, by ordering the contrary.

But if during the rest of my hand it be seized by a sudden palsy, the indifferency of that operative power is gone; and with it my liberty; I have no longer freedom in that respect, but am under a necessity of letting my hand rest. On the other side, if my hand be put into motion by a convulsion, the indifferency of that operative faculty is taken away by that motion, and my liberty in that case is lost: for I am under a necessity of having my hand move. I have added this to show in what sort of indifferency liberty seems to me to consist, and not in any other, real or imaginary.

2.21.72 True notions concerning the nature and extent of liberty are of so great importance, that I hope I shall be pardoned this digression, which my attempt to explain it has led me into. The ideas of will, volition, liberty, and necessity, in this

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liberty except as a consequence of thought and judgment.

I am not fussy about phrases, and so I agree to say, with those who like to talk that way, that liberty is placed in indifference. But it is an indifference that remains after the judgment of the understanding, and even after the determination of the will. And that is an indifference not of the man (for once he has judged which is best, namely

to do or to forbear, he is no longer indifferent) but of the man's operative powers. After the decree of the will, these powers remain as able to operate or to forbear operating as they were before. So they are in a state that may, if one likes, be called indifference. As far as this indifference reaches, a man is free, and no further. For example, I have the ability to move my hand or to let it rest. That operative power is indifferent to moving or not moving my hand, and in that respect I am then perfectly free.

My will determines that operative power to rest. I am still free, because the indifference of my operative power to act or not to act still remains. The power of moving my hand is not in the least impaired by the determination of my will, which at present orders rest. The indifference of that power to act or not to act is just as it was before. This will appear if the will puts it to the test by ordering the contrary.

But suppose that while my hand is at rest it is seized by a sudden paralysis. Then the indifference of that operative power is gone, and my liberty with it. I no longer have freedom in that respect, but am under a necessity of letting my hand rest. On the other hand, suppose my hand is set in motion by a convulsion. Then the indifference of that operative faculty is taken away by that motion, and my liberty in that case is lost, for I am under a necessity of having my hand move. I have added this to show the sort of indifference in which liberty seems to me to consist. It does not consist in any other, real or imaginary.

True notions about the nature and extent of liberty are so important that I hope I will be pardoned for this digression, into which my attempt to explain it has led me. The ideas of will, volition, liberty, and necessity came naturally in

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chapter of power, came naturally in my way. In a former edition of this treatise I gave an account of my thoughts concerning them, according to the light I then had: and now, as a lover of truth, and not a worshipper of my own doctrines, I own some change of my opinion, which I think I have discovered ground for. In what I first writ, I with an unbiassed indifferency followed truth, whither I thought she led me.

But neither being so vain as to fancy infallibility, nor so disingenuous as to dissemble my mistakes for fear of blemishing my reputation, I have, with the same sincere design for truth only, not been ashamed to publish what a severer inquiry has suggested. It is not impossible but that some may think my former notions right, and some (as I have already found) these latter, and some neither. I shall not at all wonder at this variety in men's opinions; impartial deductions of reason in controverted points being so rare, and exact ones in abstract notions not so very easy, especially if of any length.

And therefore I should think myself not a little beholden to any one, who would upon these, or any other grounds, fairly clear this subject of liberty from any difficulties that may yet remain.

Before I close this chapter, it may perhaps be to our purpose, and help to give us clearer conceptions about power, if we make our thoughts take a little more exact survey of action. I have said above, that we have ideas but of two sorts of action, viz. motion and thinking. These, in truth, though called and counted actions, yet, if nearly considered, will not be found to be always perfectly so. For, if I mistake not, there are instances of both kinds, which, upon due consideration, will be found rather passions than actions, and consequently so far the effects barely of passive powers in those subjects, which yet on their accounts are thought agents.

For in these instances, the substance that has motion or thought receives the impression, where it is put into that action purely from without, and so acts merely by the capacity it has to receive such an impression from some external agent; and such a power is not properly an active power, but a mere passive capacity in the subject. Sometimes the substance or agent puts itself into

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my way in this chapter on power. In an earlier edition of this treatise I gave an account of my thoughts about them, according to the light I then had. Now, as a lover of truth and not a worshiper of my own doctrines, I acknowledge some change in my opinion, and I think I have found grounds for it. In what I first wrote, I followed truth with unbiased impartiality wherever I thought she led me.

But I am neither so vain as to imagine myself infallible nor so dishonest as to hide my mistakes for fear of damaging my reputation. So, with the same sincere aim at truth alone, I have not been ashamed to publish what a stricter inquiry has suggested. It is not impossible that some may think my former notions right, some (as I have already found) these later ones, and some neither. I shall not be at all surprised at this variety in men’s opinions. Impartial deductions of reason on disputed points are rare, and exact ones about abstract notions are not very easy, especially if they are at all long.

And so I would think myself not a little indebted to anyone who, on these or any other grounds, would fairly clear this subject of liberty of whatever difficulties may still remain.

Before I close this chapter, it may serve our purpose, and help give us clearer conceptions of power, if we survey action a little more exactly. I said above that we have ideas of only two sorts of action, namely motion and thinking. In truth, though these are called and counted actions, if we look at them closely we will find that they are not always perfectly so. For, unless I am mistaken, there are instances of both kinds that, on due consideration, will turn out to be passions rather than actions. To that extent they are merely the effects of passive powers in those subjects, even though those subjects are thought of as agents on their account.

For in these instances, the substance that has motion or thought receives the impression, being put into that action purely from outside. So it acts merely by the capacity it has to receive such an impression from some external agent. A power like that is not properly an active power but a mere passive capacity in the subject. Sometimes the substance or agent puts itself into action by its

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action by its own power, and this is properly active power. Whatsoever modification a substance has, whereby it produces any effect, that is called action: *v. g.* a solid substance by motion operates on or alters the sensible ideas of another substance, and therefore this modification of motion we call action.

But yet this motion in that solid substance is, when rightly considered, but a passion, if it received it only from some external agent. So that the active power of motion is in no substance which cannot begin motion in itself, or in another substance, when at rest. So likewise in thinking, a power to receive ideas or thoughts, from the operation of any external substance, is called a power of thinking: but this is but a passive power, or capacity. But to be able to bring into view ideas out of sight at one's own choice, and to compare which of them one thinks fit, this is an active power.

This reflection may be of some use to preserve us from mistakes about powers and actions, which grammar and the common frame of languages may be apt to lead us into; since what is signified by verbs that grammarians call active, does not always signify action: *v. g.* this proposition, I see the moon, or a star, or I feel the heat of the sun, though expressed by a verb active, does not signify any action in me, whereby I operate on those substances; but the reception of the ideas of light, roundness, and heat, wherein I am not active, but barely passive, and cannot in that position of my eyes or body avoid receiving them.

But when I turn my eyes another way, or remove my body out of the sunbeams, I am properly active, because of my own choice, by a power within myself, I put myself into that motion. Such an action is the product of active power.

2.21.73 And thus I have, in a short draught, given a view of our original ideas, from whence all the rest are derived, and of which they are made up; which if I would consider as a philosopher, and examine on what causes they depend, and of what they are made, I believe they all might be reduced to these very few primary and original ones, viz. extension, solidity, mobility, or the power of being moved, which by our senses we receive from body; perceptivity, or the power of perception or thinking: motivity, or the power of

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own power, and this is properly active power. Whatever modification a substance has by which it produces any effect is called action. For example, a solid substance by motion operates on or alters the sensible ideas of another substance, and so we call this modification of motion action.

Yet this motion in that solid substance, rightly considered, is only a passion if it received the motion only from some external agent. So the active power of motion is in no substance that cannot begin motion in itself, or in another substance at rest. It is the same with thinking. A power to receive ideas or thoughts from the operation of some external substance is called a power of thinking, but this is only a passive power, or capacity. But to be able to bring into view ideas that are out of sight, at one's own choice, and to compare whichever of them one thinks fit, is an active power.

This reflection may help keep us from mistakes about powers and actions that grammar and the common structure of languages are apt to lead us into. What is signified by the verbs grammarians call active does not always signify action. For example, the proposition "I see the moon, or a star," or "I feel the heat of the sun," is expressed by an active verb. Yet it does not signify any action in me by which I operate on those substances. It signifies the reception of the ideas of light, roundness, and heat, in which I am not active but merely passive, and with my eyes or body in that position I cannot avoid receiving them.

But when I turn my eyes another way, or move my body out of the sunbeams, I am properly active, because by my own choice, through a power within myself, I put myself into that motion. Such an action is the product of active power.

And so I have given, in a short sketch, a view of our original ideas, from which all the rest are derived and of which they are made up. If I were to consider them as a philosopher, and examine what causes they depend on and what they are made of, I believe they could all be reduced to these very few primary and original ones. The first are extension, solidity, and mobility, or the power of being moved, which we receive from body by our senses. The others are perceptivity, or

moving; which by reflection we receive from our minds.

I crave leave to make use of these two new words, to avoid the danger of being mistaken in the use of those which are equivocal. To which if we add existence, duration, number,—which belong both to the one and the other,—we have, perhaps, all the original ideas, on which the rest depend. For, by these, I imagine, might be explained the nature of colours, sounds, tastes, smells, and all other ideas we have, if we had but faculties acute enough to perceive the severally modified extensions and motions of these minute bodies, which produce those several sensations in us.

But my present purpose being only to inquire into the knowledge the mind has of things, by those ideas and appearances which God has fitted it to receive from them, and how the mind comes by that knowledge, rather than into their causes or manner of production; I shall not, contrary to the design of this essay, set myself to inquire philosophically into the peculiar constitution of bodies, and the configuration of parts, whereby they have the power to produce in us the ideas of their sensible qualities:

I shall not enter any farther into that disquisition, it sufficing to my purpose to observe, that gold or saffron has a power to produce in us the idea of yellow, and snow or milk the idea of white, which we can only have by our sight, without examining the texture of the parts of those bodies, or the particular figures or motion of the particles which rebound from them, to cause in us that particular sensation: though when we go beyond the bare ideas in our minds, and would inquire into their causes, we cannot conceive any thing else to be in any sensible object, whereby it produces different ideas in us, but the different bulk, figure, number, texture, and motion of its insensible parts.

the power of perception or thinking, and motivity, or the power of moving, which we receive from our minds by reflection.

I ask permission to use these two new words, to avoid the danger of being misunderstood if I used ambiguous ones. If we add to these existence, duration, and number, which belong to both, we have perhaps all the original ideas on which the rest depend. For by these, I imagine, we could explain the nature of colors, sounds, tastes, smells, and all our other ideas. We would only need faculties acute enough to perceive the variously modified extensions and motions of the minute bodies that produce those various sensations in us.

But my present purpose is only to inquire into the knowledge the mind has of things through the ideas and appearances God has fitted it to receive from them, and how the mind comes by that knowledge. It is not to inquire into their causes or manner of production. So I will not go against the design of this essay by setting out to inquire philosophically into the particular constitution of bodies, and the configuration of parts by which they have the power to produce in us the ideas of their sensible qualities.

I will not go any further into that investigation. For my purpose it is enough to observe that gold or saffron has a power to produce in us the idea of yellow, and snow or milk the idea of white, which we can have only by sight. We need not examine the texture of the parts of those bodies, or the particular shapes or motion of the particles that rebound from them to cause that particular sensation in us. Still, when we go beyond the bare ideas in our minds and try to inquire into their causes, we can conceive nothing in a sensible object by which it produces different ideas in us, except the different bulk, shape, number, texture, and motion of its insensible parts.

Book II: Of Ideas (Chapters XXII–XXXIII)

Complex ideas of mixed modes, substances and relations; cause and effect; identity and personal identity; clear, real, adequate and true ideas; the association of ideas.

CHAPTER XXII. OF MIXED MODES.

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2.22.1	*Mixed modes, what.*—Having treated of simple modes in the foregoing chapters, and given several instances of some of the most considerable of them, to show what they are, and how we come by them, we are now in the next place to consider those we call mixed modes: such are the complex ideas we mark by the names obligation, drunkenness, a lie, &c. which consisting of several combinations of simple ideas of different kinds, I have called mixed modes, to distinguish them from the more simple modes, which consist only of simple ideas of the same kind.	*What mixed modes are.*—Having treated simple modes in the preceding chapters, and given examples of some of the most important of them to show what they are and how we come by them, we must next consider what we call mixed modes. Such are the complex ideas we mark by the names obligation, drunkenness, a lie, and so on. They consist of various combinations of simple ideas of different kinds, so I have called them mixed modes, to distinguish them from the simpler modes, which consist only of simple ideas of the same kind.
	These mixed modes being also such combinations of simple ideas as are not looked upon to be characteristical marks of any real beings that have a steady existence, but scattered and independent ideas put together by the mind, are thereby distinguishable from the complex ideas of substances.	These mixed modes are also combinations of simple ideas that are not regarded as the characteristic marks of any real beings with a steady existence. They are scattered and independent ideas put together by the mind, and this distinguishes them from the complex ideas of substances.
2.22.2	*Made by the mind.*—That the mind, in respect of its simple ideas, is wholly passive, and receives them all from the existence and operations of things, such as sensation or reflection offers them, without being able to make any one idea, experience shows us but if we attentively consider these ideas I call mixed modes, we are now speaking of, we shall find their original quite different. The mind often exercises an active power in making these several combinations: for it being once furnished with simple ideas, it can put them together in several compositions, and so make variety of complex ideas, without examining whether they exist so together in nature.	*Made by the mind.*—Experience shows us that with respect to its simple ideas the mind is wholly passive. It receives them all from the existence and operations of things, as sensation or reflection offers them, and cannot make a single idea. But if we look carefully at the ideas I call mixed modes, which we are now discussing, we will find that their origin is quite different. The mind often exercises an active power in making these various combinations. Once it is furnished with simple ideas, it can put them together in various compositions and so make a variety of complex ideas, without examining whether they exist together that way in nature.
	And hence I think it is that these ideas are called notions, as if they had their original and constant existence more in the thoughts of men than in the	This, I think, is why these ideas are called notions, as if they had their origin and constant existence more in people's thoughts than in the reality of

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reality of things: and to form such ideas, it sufficed that the mind puts the parts of them together, and that they were consistent in the understanding, without considering whether they had any real being: though I do not deny but several of them might be taken from observation, and the existence of several simple ideas so combined, as they are put together in the understanding.

For the man who first framed the idea of hypocrisy might have either taken it at first from the observation of one, who made show of good qualities which he had not, or else have framed that idea in his mind, without having any such pattern to fashion it by: for it is evident, that in the beginning of languages and societies of men, several of those complex ideas, which were consequent to the constitutions established among them, must needs have been in the minds of men, before they existed any where else: and that many names that stood for such complex ideas were in use, and so those ideas framed, before the combinations they stood for ever existed.

2.22.3 *Sometimes got by the explication of their names.*—Indeed, now that languages are made, and abound with words standing for such combinations, a usual way of getting these complex ideas is by the explication of those terms that stand for them: for consisting of a company of simple ideas combined, they may by words, standing for those simple ideas, be represented to the mind of one who understands those words, though that complex combination of simple ideas were never offered to his mind by the real existence of things. Thus a man may come to have the idea of sacrilege or murder, by enumerating to him the simple ideas which these words stand for, without ever seeing either of them committed.

2.22.4 *The name ties the parts of mixed modes into one idea.*—Every mixed mode consisting of many distinct simple ideas, it seems reasonable to inquire, "whence it has its unity, and how such a precise multitude comes to make but one idea, since that combination does not always exist together in nature?" To which I answer, it is plain it has its unity from an act of the mind combining those several simple ideas together, and considering

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things. To form such ideas it was enough for the mind to put their parts together and for them to be consistent in the understanding, without considering whether they had any real being. I do not deny, though, that several of them might be taken from observation, where various simple ideas exist combined in the same way as they are put together in the understanding.

The man who first framed the idea of hypocrisy might have taken it from observing someone who made a show of good qualities he did not have. Or he might have framed that idea in his mind without any such pattern to shape it by. For it is evident that when languages and human societies began, several of the complex ideas that followed from the institutions established among people must have been in their minds before they existed anywhere else. It is also evident that many names standing for such complex ideas were in use, and those ideas already framed, before the combinations they stood for ever existed.

Sometimes got by the explanation of their names.—Indeed, now that languages have been made and are full of words standing for such combinations, a usual way of getting these complex ideas is by explaining the terms that stand for them. They consist of a group of simple ideas combined. So they can be represented, by words standing for those simple ideas, to the mind of someone who understands those words, even if that complex combination of simple ideas was never presented to his mind by the real existence of things. Thus a man may come to have the idea of sacrilege or murder by having the simple ideas these words stand for listed for him, without ever seeing either of them committed.

The name ties the parts of mixed modes into one idea.—Every mixed mode consists of many distinct simple ideas, so it seems reasonable to ask “where it gets its unity, and how such a precise multitude comes to make only one idea, since that combination does not always exist together in nature.” My answer is that it plainly gets its unity from an act of the mind combining those various simple ideas and considering them as one complex idea made

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them as one complex one, consisting of those parts; and the mark of this union, or that which is looked on generally to complete it, is one name given to that combination.

For it is by their names that men commonly regulate their account of their distinct species of mixed modes, seldom allowing or considering any number of simple ideas to make one complex one, but such collections as there be names for. Thus, though the killing of an old man be as fit in nature to be united into one complex idea as the killing a man's father: yet there being no name standing precisely for the one, as there is the name of parricide to mark the other, it is not taken for a particular complex idea, nor a distinct species of actions from that of killing a young man, or any other man.

2.22.5 *The cause of making mixed modes.*—If we should inquire a little farther, to see what it is that occasions men to make several combinations of simple ideas into distinct, and, as it were, settled modes, and neglect others which in the nature of things themselves have as much aptness to be combined and make distinct ideas, we shall find the reason of it to be the end of language;

which being to mark or communicate men's thoughts to one another with all the despatch that may be, they usually made such collections of ideas into complex modes, and affix names to them, as they have frequent use of in their way of living and conversation, leaving others, which they have but seldom an occasion to mention, loose and without names to tie them together; they rather choosing to enumerate (when they have need) such ideas as make them up, by the particular names that stand for them, than to trouble their memories by multiplying of complex ideas with names to them, which they seldom or never have any occasion to make use of.

2.22.6 *Why words in one language have none answering in another.*—This shows us how it comes to pass, that there are in every language many particular words which cannot be rendered by any one single word of another. For the several fashions, customs, and manners of one nation, making several combinations of ideas familiar and necessary in one, which another people have had never any occasion to make, or perhaps so much

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up of those parts. The mark of this union, or what is generally regarded as completing it, is a single name given to that combination.

For people commonly reckon up their distinct species of mixed modes by their names. They seldom allow or consider any number of simple ideas to make one complex idea, except those collections that have names. Thus the killing of an old man is by nature as fit to be united into one complex idea as the killing of a man's father. Yet there is no name standing precisely for the one, as there is the name parricide to mark the other. So the former is not taken for a particular complex idea, or for a species of action distinct from killing a young man or any other man.

The cause of making mixed modes.—People make certain combinations of simple ideas into distinct and, as it were, settled modes, while neglecting others that in the nature of things are just as apt to be combined and make distinct ideas. If we inquire a little further into what leads them to do this, we will find the reason to be the purpose of language.

That purpose is to mark or communicate people's thoughts to one another as quickly as possible. So they usually make into complex modes, and give names to, the collections of ideas they frequently use in their way of life and conversation. Others, which they seldom have occasion to mention, they leave loose, without names to tie them together. When they need to, they prefer to list the ideas that make these up, by the particular names that stand for them. They would rather do that than burden their memories by multiplying named complex ideas that they seldom or never have occasion to use.

Why words in one language have none answering to them in another.—This shows us why every language has many particular words that cannot be rendered by any single word of another. The various fashions, customs, and manners of one nation make certain combinations of ideas familiar and necessary to it. Another people may never have had any occasion to make those combinations, or perhaps never even noticed them. Names natur-

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as taken notice of; names come of course to be annexed to them, to avoid long periphrases in things of daily conversation, and so they become so many distinct complex ideas in their minds.

Thus ὀστρακισμὸς among the Greeks, and *proscriptio* among the Romans, were words which other languages had no names that exactly answered, because they stood for complex ideas, which were not in the minds of the men of other nations. Where there was no such custom, there was no notion of any such actions; no use of such combinations of ideas as were united, and as it were tied together by those terms: and therefore in other countries there were no names for them.

2.22.7 *And languages change.*—Hence also we may see the reason why languages constantly change, take up new and lay by old terms; because change of customs and opinions bringing with it new combinations of ideas, which it is necessary frequently to think on, and talk about, new names, to avoid long descriptions, are annexed to them, and so they become new species of complex modes.

What a number of different ideas are by this means wrapt up in one short sound, and how much of our time and breath is thereby saved, any one will see, who will but take pains to enumerate all the ideas that either reprieve or appeal stand for; and, instead of either of those names, use a periphrasis, to make any one understand their meaning.

2.22.8 *Mixed modes, where they exist.*—Though I shall have occasion to consider this more at large, when I come to treat of words and their use, yet I could not avoid to take thus much notice here of the names of mixed modes; which being fleeting and transient combinations of simple ideas, which have but a short existence any where but in the minds of men, and there, too, have no longer any existence than whilst they are thought on, have not so much any where the appearance of a constant and lasting existence as in their names: which are, therefore, in this sort of ideas, very apt to be taken for the ideas themselves.

For if we should inquire where the idea of a triumph or apotheosis exists, it is evident they

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ally come to be attached to these combinations, to avoid long circumlocutions about things of daily conversation, and so they become so many distinct complex ideas in people's minds.

Thus *ostrakismos* among the Greeks and *proscriptio* among the Romans were words for which other languages had no exactly corresponding names, because they stood for complex ideas that were not in the minds of people of other nations. Where there was no such custom, there was no notion of any such actions. Nor was there any use for the combinations of ideas that those terms united and, as it were, tied together. So in other countries there were no names for them.[1]

And languages change.—This also shows why languages constantly change, taking up new terms and laying aside old ones. Changes of customs and opinions bring with them new combinations of ideas that people need to think and talk about often. To avoid long descriptions, new names are attached to these combinations, and so they become new species of complex modes.

How many different ideas are wrapped up by this means in one short sound, and how much of our time and breath it saves, anyone will see who takes the trouble to list all the ideas that reprieve or appeal stands for, and then uses a circumlocution in place of either name to make someone understand its meaning.

Where mixed modes exist.—I will have occasion to consider this more fully when I come to treat of words and their use. But I could not avoid saying this much here about the names of mixed modes. Mixed modes are fleeting and transient combinations of simple ideas. They have only a short existence anywhere but in people's minds, and even there they exist only while they are being thought of. So nowhere do they look so much like something with a constant and lasting existence as in their names. That is why, with this sort of idea, the names are very apt to be taken for the ideas themselves.

Suppose we ask where the idea of a triumph or of an apotheosis exists. Clearly neither could exist all together anywhere in the things themselves. They

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could neither of them exist altogether any where in the things themselves, being actions that required time to their performance, and so could never all exist together: and as to the minds of men, where the ideas of those actions are supposed to be lodged, they have there too a very uncertain existence; and therefore we are apt to annex them to the names that excite them in us.

2.22.9 *How we get the ideas of mixed modes.*—There are therefore three ways whereby we get the complex ideas of mixed modes. 1. By experience and observation of things themselves. Thus by seeing two men wrestle or fence, we get the idea of wrestling or fencing. 2. By invention, or voluntarily putting together of several simple ideas in our own minds: so he that first invented printing, or etching, had an idea of it in his mind before it ever existed. 3.

Which is the most usual way, by explaining the names of actions we never saw, or notions we cannot see; and by enumerating, and thereby, as it were, setting before our imaginations all those ideas which go to the making them up, and are the constituent parts of them. For having by sensation and reflection stored our minds with simple ideas, and by use got the names that stand for them, we can by those means represent to another any complex idea we would have him conceive; so that it has in it no simple ideas but what he knows and has with us the same name for.

For all our complex ideas are ultimately resolvable into simple ideas, of which they are compounded and originally made up, though perhaps their immediate ingredients, as I may so say, are also complex ideas. Thus the mixed mode, which the word lie stands for, is made up of these simple ideas: 1. Articulate sounds. 2. Certain ideas in the mind of the speaker. 3. Those words the signs of those ideas. 4. Those signs put together by affirmation or negation, otherwise than the ideas they stand for, are in the mind of the speaker.

I think I need not go any farther in the analysis of that complex idea we call a lie: what I have said is

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were actions that took time to perform, and so could never all exist at once. And in people's minds, where the ideas of those actions are supposed to be lodged, they also have a very uncertain existence. So we are apt to attach them to the names that arouse them in us.[2]

How we get the ideas of mixed modes.—There are, then, three ways by which we get the complex ideas of mixed modes. 1. By experience and observation of things themselves. Thus by seeing two men wrestle or fence we get the idea of wrestling or fencing. 2. By invention, or voluntarily putting together various simple ideas in our own minds. So whoever first invented printing or etching had an idea of it in his mind before it ever existed. 3.

This is the most usual way: by explaining the names of actions we never saw, or of notions we cannot see. We list, and so, as it were, set before our imaginations, all the ideas that go into making them up and are their constituent parts. For we have stored our minds with simple ideas by sensation and reflection, and have learned by use the names that stand for them. By these means we can represent to another person any complex idea we want him to conceive, provided it contains only simple ideas that he knows and calls by the same names as we do.

For all our complex ideas can ultimately be resolved into the simple ideas of which they are compounded and originally made up, though their immediate ingredients, if I may put it that way, may also be complex ideas. Thus the mixed mode that the word lie stands for is made up of these simple ideas: 1. Articulate sounds. 2. Certain ideas in the mind of the speaker. 3. Those words being the signs of those ideas. 4. Those signs put together, by affirmation or negation, otherwise than the ideas they stand for are in the mind of the speaker.

I do not think I need go any further in analyzing the complex idea we call a lie. What I have said is

1 Ostracism: the Athenian practice of banishing a citizen for ten years by popular vote. Proscription: the Roman practice of publishing lists of outlawed citizens, whose property was seized and who could be killed with impunity.
2 A triumph was the Roman victory procession granted to a successful general; an apotheosis was the ceremonial deification of a dead emperor.

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enough to show, that it is made up of simple ideas; and it could not be but an offensive tediousness to my reader, to trouble him with a more minute enumeration of every particular simple idea that goes to this complex one; which, from what has been said, he cannot but be able to make out to himself. The same may be done in all our complex ideas whatsoever; which, however compounded and decompounded, may at last be resolved into simple ideas, which are all the materials of knowledge or thought we have, or can have.

Nor shall we have reason to fear that the mind is hereby stinted to too scanty a number of ideas, if we consider what an inexhaustible stock of simple modes, number and figure alone afford us. How far then mixed modes, which admit of the various combinations of different simple ideas, and their infinite modes, are from being few and scanty, we may easily imagine. So that before we have done, we shall see that nobody need be afraid he shall not have scope and compass enough for his thoughts to range in, though they be, as I pretend, confined only to simple ideas received from sensation or reflection, and their several combinations.

2.22.10 *Motion, thinking, and power, have been most modified.*—It is worth our observing, which of all our simple ideas have been most modified, and had most mixed ideas made out of them, with names given to them; and those have been these three: thinking and motion (which are the two ideas which comprehend in them all action) and power, from whence these actions are conceived to flow. The simple ideas, I say, of thinking, motion, and power, have been those which have been most modified, and out of whose modifications have been made most complex modes with names to them.

For action being the great business of mankind, and the whole matter about which all laws are conversant, it is no wonder that the several modes of thinking and motion should be taken notice of, the ideas of them observed, and laid up in the memory, and have names assigned to them; without which, laws could be but ill made, or vice and disorder repressed. Nor could any communication be well had among men without such complex ideas with names to them: and therefore men have settled names, and supposed

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enough to show that it is made up of simple ideas. It could only be an offensive tediousness to trouble my reader with a more minute list of every particular simple idea that goes into this complex one, since from what has been said he can certainly work it out for himself. The same can be done with all our complex ideas whatsoever. However compounded and recompounded, they can in the end be resolved into simple ideas, which are all the materials of knowledge or thought we have or can have.

Nor need we fear that this confines the mind to too scanty a number of ideas, if we consider what an inexhaustible stock of simple modes number and shape alone provide us. Mixed modes allow the various combinations of different simple ideas and of their infinite modes, so we can easily imagine how far they are from being few and scanty. Before we are done, we will see that no one need fear he will not have scope and room enough for his thoughts to range in. That holds even though his thoughts are, as I claim, confined to simple ideas received from sensation or reflection and their various combinations.

Motion, thinking, and power have been most modified.—It is worth noticing which of all our simple ideas have been most modified and have had the most mixed ideas made out of them, with names given to them. They have been these three: thinking and motion (the two ideas that include all action within them), and power, from which these actions are conceived to flow. The simple ideas of thinking, motion, and power, I say, have been the most modified, and out of their modifications the most complex modes with names have been made.

For action is the great business of mankind, and the whole subject matter of all laws. So it is no wonder that the various modes of thinking and motion have been noticed, their ideas observed and stored in memory, and names assigned to them. Without this, laws could only be badly made, and vice and disorder could hardly be repressed. Nor could people communicate well with one another without such complex ideas with names attached. So they have settled names, and supposedly settled ideas in their minds, for modes

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settled ideas in their minds, of modes of action distinguished by their causes, means, objects, ends, instruments, time, place, and other circumstances; and also of their powers fitted for those actions: v.

g. boldness is the power to speak or do what we intend, before others, without fear or disorder; and the Greeks call the confidence of speaking by a peculiar name, παῤῥησία: which power or ability in man, of doing any thing, when it has been acquired by frequent doing the same thing, is that idea we name habit; when it is forward, and ready upon every occasion to break into action, we call it disposition. Thus, testiness is a disposition or aptness to be angry.

To conclude: let us examine any modes of action, *v. g.* consideration and assent, which are actions of the mind; running and speaking, which are actions of the body; revenge and murder, which are actions of both together; and we shall find them but so many collections of simple ideas, which together make up the complex ones signified by those names.

2.22.11 *Several words seeming to signify action, signify but the effect.*—Power being the source from whence all action proceeds, the substances wherein these powers are, when they exert this power into act, are called causes; and the substances which thereupon are produced, or the simple ideas which are introduced into any subject by the exerting of that power, are called effects.

The efficacy whereby the new substance or idea is produced, is called, in the subject exerting that power, action; but in the subject wherein any simple idea is changed or produced, it is called passion: which efficacy, however various, and the effects almost infinite, yet we can, I think, conceive it, in intellectual agents, to be nothing else but modes of thinking and willing; in corporeal agents, nothing else but modifications of motion.

I say, I think we cannot conceive it to be any other but these two: for whatever sort of action, besides these, produces any effects, I confess myself to have no notion or idea of; and so it is quite remote from my thoughts, apprehensions and

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of action distinguished by their causes, means, objects, ends, instruments, time, place, and other circumstances. They have done the same for the powers suited to those actions. For example,

boldness is the power to speak or do what we intend before others, without fear or confusion; and the Greeks have a special name for confidence in speaking, *parrhēsia*. When this power or ability in a person to do something has been acquired by frequently doing the same thing, it is the idea we name habit. When it is forward and ready on every occasion to break out into action, we call it disposition. Thus, testiness is a disposition or aptness to be angry.[3]

To conclude: let us examine any modes of action. Consideration and assent are actions of the mind; running and speaking are actions of the body; revenge and murder are actions of both together. We will find them to be only so many collections of simple ideas, which together make up the complex ideas signified by those names.

Several words that seem to signify action signify only the effect.—Power is the source from which all action proceeds. The substances in which these powers are, when they exert this power in act, are called causes. The substances produced as a result, or the simple ideas introduced into some subject by the exercise of that power, are called effects.

The efficacy by which the new substance or idea is produced is called action in the subject exerting that power, but passion in the subject in which some simple idea is changed or produced. This efficacy may be very various and its effects almost infinite. Yet I think we can conceive it, in intellectual agents, to be nothing but modes of thinking and willing, and in bodily agents, nothing but modifications of motion.

I say I think we cannot conceive it to be anything other than these two. For if some other sort of action besides these produces effects, I confess I have no notion or idea of it. So it is quite remote from my thoughts, apprehensions, and know-

3 *Parrhēsia*: frankness or freedom of speech, especially speaking boldly before those in power.

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knowledge; and as much in the dark to me as five other senses, or as the ideas of colours to a blind man and therefore many words, which seem to express some action, signify nothing of the action or *modus operandi* at all, but barely the effect, with some circumstances of the subject wrought on, or cause operating; v.

g. creation, annihilation, contain in them no idea of the action or manner whereby they are produced, but barely of the cause and the thing done. And when a countryman says the cold freezes water, though the word freezing seems to import some action, yet truly it signifies nothing but the effect, viz. that water that was before fluid is become hard and consistent, without containing any idea of the action whereby it is done.

2.22.12 *Mixed modes made also of other ideas.*—I think I shall not need to remark here, that though power and action make the greatest part of mixed modes, marked by names, and familiar in the minds and mouths of men, yet other simple ideas, and their several combinations, are not excluded: much less, I think, will it be necessary for me to enumerate all the mixed modes which have been settled with names to them. That would be to make a dictionary of the greatest part of the words made use of in divinity, ethics, law, and politics, and several other sciences.

All that is requisite to my present design is, to show what sort of ideas those are, which I call mixed modes, how the mind comes by them, and that they are compositions made up of simple ideas got from sensation and reflection; which I suppose I have done.

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ledge, and as much in the dark to me as five other senses would be, or as the ideas of colors are to a blind man. And therefore many words that seem to express some action signify nothing of the action or *modus operandi* (manner of operating) at all. They signify merely the effect, with some circumstances of the subject acted on or of the cause operating. For example,

creation and annihilation contain no idea of the action or manner by which they are produced, but only of the cause and the thing done. And when a countryman says the cold freezes water, the word freezing seems to imply some action. But it really signifies nothing but the effect, namely that water that was fluid before has become hard and solid. It contains no idea of the action by which this is done.

Mixed modes also made of other ideas.—Power and action make up the greatest part of the mixed modes that are marked by names and familiar in people's minds and mouths. I do not think I need to point out here that other simple ideas and their various combinations are not excluded. Still less, I think, will I need to list all the mixed modes that have been settled with names. That would mean making a dictionary of most of the words used in theology, ethics, law, politics, and several other sciences.

All my present design requires is to show what sort of ideas the ones I call mixed modes are, how the mind comes by them, and that they are compositions made up of simple ideas got from sensation and reflection. I believe I have done this.

IDEAS OF SUBSTANCES

Locke argues that our idea of substance is only a supposed support of qualities, something we know not what.

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2.23.1 *Ideas of substances, how made.*—The mind being, as I have declared, furnished with a great number of the simple ideas, conveyed in by the senses, as they are found in exterior things, or by reflection on its own operations, takes notice also, that a certain number of these simple ideas go constantly together; which being presumed to belong to one thing, and words being suited to

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How ideas of substances are made.—As I have explained, the mind is furnished with a great number of simple ideas. Some are conveyed in by the senses, as they are found in external things, and some come by reflection on its own operations. The mind also notices that a certain number of these simple ideas go constantly together. These are presumed to belong to one thing. And since

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common apprehensions, and made use of for quick despatch, are called, so united in one subject, by one name; which, by inadvertency, we are apt afterward to talk of, and consider as one simple idea, which indeed is a complication of many ideas together: because, as I have said, not imagining how these simple ideas can subsist by themselves, we accustom ourselves to suppose some *substratum* wherein they do subsist, and from which they do result, and which therefore we call *substance*.

2.23.2 *Our idea of substance in general.*—So that if any one will examine himself concerning his notion of pure substance in general, he will find he has no other idea of it at all, but only a supposition of he knows not what support of such qualities, which are capable of producing simple ideas in us; which qualities are commonly called accidents. If any one should be asked, what is the subject wherein colour or weight inheres? he would have nothing to say, but the solid extended parts: and if he were demanded, what is it that solidity and extension inhere in?

he would not be in a much better case than the Indian before mentioned, who, saying that the world was supported by a great elephant, was asked what the elephant rested on? to which his answer was, a great tortoise. But being again pressed to know what gave support to the broad backed tortoise, replied, something, he knew not what.

And thus here, as in all other cases where we use words without having clear and distinct ideas, we talk like children; who being questioned what such a thing is, which they know not, readily give this satisfactory answer, that it is something: which, in truth, signifies no more, when so used, either by children or men, but that they know not what; and that the thing they pretend to know and talk of, is what they have no distinct idea of at all, and so are perfectly ignorant of it, and in the dark.

The idea, then, we have, to which we give the general name substance, being nothing but the supposed, but unknown, support of those qualities we find existing, which we imagine cannot subsist *sine re substante*, without

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words are suited to common understanding and used for quick dispatch, they are called by one name, as united in one subject. Through inadvertence we are later apt to talk of this and consider it as one simple idea, when it is really a complication of many ideas together. For, as I have said, we cannot imagine how these simple ideas can subsist by themselves. So we get used to supposing some *substratum* in which they subsist and from which they result, and we therefore call it *substance*.

Our idea of substance in general.—So if anyone examines himself about his notion of pure substance in general, he will find he has no other idea of it at all, but only a supposition of he knows not what support of those qualities that are capable of producing simple ideas in us. These qualities are commonly called accidents. If someone were asked what the subject is in which color or weight inheres, he would have nothing to say but the solid extended parts. And if he were asked what solidity and extension inhere in,

he would be in hardly a better position than the Indian mentioned earlier. That Indian said that the world was supported by a great elephant, and was asked what the elephant rested on. His answer was: a great tortoise. But when he was pressed again to say what supported the broad-backed tortoise, he replied: something, he knew not what.[4]

And so here, as in all other cases where we use words without having clear and distinct ideas, we talk like children. When children are asked what some thing is that they do not know, they readily give the satisfying answer that it is something. Used this way, by children or adults, the word in truth means no more than that they do not know what. The thing they claim to know and talk about is something they have no distinct idea of at all, so they are perfectly ignorant of it and in the dark.

The idea to which we give the general name substance, then, is nothing but the supposed but unknown support of the qualities we find existing. We imagine these qualities cannot subsist *sine re substante*, without something to support them, and

4 The Indian philosopher and his elephant and tortoise appear earlier, at 2.13.19.

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something to support them, we call that support *substantia*; which, according to the true import of the word, is, in plain English, *standing under, or upholding*.

2.23.3 *Of the sorts of substances.*—An obscure and relative idea of substance in general being thus made, we come to have the ideas of particular sorts of substances, by collecting such combinations of simple ideas, as are, by experience and observation of men's senses, taken notice of to exist together, and are therefore supposed to flow from the particular internal constitution, or unknown essence of that substance. Thus we come to have the ideas of a man, horse, gold, water, &c. of which substances, whether any one has any other clear idea, farther than of certain simple ideas co-existing together, I appeal to every one's own experience.

It is the ordinary qualities observable in iron, or a diamond, put together, that make the true complex idea of those substances, which a smith or a jeweller commonly knows better than a philosopher; who, whatever substantial forms he may talk of, has no other idea of those substances than what is framed by a collection of those simple ideas which are to be found in them: only we must take notice, that our complex ideas of substances, besides all those simple ideas they are made up of, have always the confused idea of something to which they belong, and in which they subsist.

And, therefore, when we speak of any sort of substance, we say it is a thing having such or such qualities; as body is a thing that is extended, figured, and capable of motion; spirit, a thing capable of thinking; and so hardness, friability, and power to draw iron, we say, are qualities to be found in a loadstone. These, and the like fashions of speaking, intimate that the substance is supposed always something besides the extension, figure, solidity, motion, thinking, or other observable ideas, though we know not what it is.

2.23.4 *No clear idea of substance in general.*—Hence, when we talk or think of any particular sort of corporeal substances, as horse, stone, &c. though the idea we have of either of them be but the

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we call that support *substantia*. According to the true meaning of the word, this is in plain English *standing under*, or *upholding*.

Of the sorts of substances.—Once an obscure and relative idea of substance in general has been formed in this way, we come to have the ideas of particular sorts of substances. We do this by collecting the combinations of simple ideas that experience and the observation of people's senses have found to exist together. These are therefore supposed to flow from the particular internal constitution, or unknown essence, of that substance. This is how we come to have the ideas of a man, a horse, gold, water, and so on. Does anyone have any clearer idea of these substances than of certain simple ideas coexisting together? I leave that to everyone's own experience.

It is the ordinary observable qualities of iron or a diamond, put together, that make the true complex idea of those substances, and a smith or a jeweler commonly knows these better than a philosopher. Whatever substantial forms the philosopher may talk of, he has no other idea of those substances than one framed by a collection of the simple ideas found in them. We must only note one thing. Our complex ideas of substances, besides all the simple ideas they are made up of, always include the confused idea of something to which they belong and in which they subsist.[5]

And so when we speak of any sort of substance, we say it is a thing having such-and-such qualities. Body is a thing that is extended, shaped, and capable of motion; spirit is a thing capable of thinking. And we say that hardness, friability, and the power to draw iron are qualities found in a lodestone. These and similar ways of speaking imply that the substance is always supposed to be something besides the extension, shape, solidity, motion, thinking, or other observable ideas, though we do not know what it is.

No clear idea of substance in general.—Hence, we may talk or think of some particular sort of bodily substance, such as horse, stone, and so on. The idea we have of either of them is only the complic-

5 "Substantial forms": the scholastic doctrine, derived from Aristotle, that each natural kind has an inner form making it what it is.

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complication or collection of those several simple ideas of sensible qualities, which we use to find united in the thing called horse or stone; yet because we cannot conceive how they should subsist alone, nor one in another, we suppose them existing in, and supported by, some common subject; *which support we denote by the name substance*, though it be certain we have no clear or distinct idea of that thing we suppose a support.

2.23.5 *As clear an idea of spirit as body.*—The same happens concerning the operations of the mind, viz. thinking, reasoning, fearing, &c. which we, concluding not to subsist of themselves, nor apprehending how they can belong to body, or be produced by it, we are apt to think these the actions of some other substance, which we call spirit: whereby yet it is evident, that having no other idea or notion of matter, but something wherein those many sensible qualities which affect our senses, do subsist; by supposing a substance, wherein *thinking, knowing, doubting*, and a power of moving, &c.

do subsist, *we have as clear a notion of the substance of spirit, as we have of body*; the one being supposed to be (without knowing what it is) the *substratum* to those simple ideas we have from without; and the other supposed (with a like ignorance of what it is) to be the substratum to those operations we experiment in ourselves within.

It is plain, then, that the idea of corporeal *substance* in matter, is as remote from our conceptions and apprehensions, as that of spiritual *substance* or spirit: and therefore, from our not having any notion of the substance of spirit, we can no more conclude its non-existence, than we can, for the same reason, deny the existence of body; it being as rational to affirm there is no body, because we have no clear and distinct idea of the *substance* of matter, as to say there is no spirit, because we have no clear and distinct idea of the substance of a spirit.

2.23.6 *Of the sorts of substances.*—Whatever, therefore, be the secret abstract nature of substance in general, all *the ideas we have of particular distinct sorts of substances* are nothing but several combinations of simple ideas, coexisting in such, though unknown, cause of their union, as makes the whole subsist of itself. It is by such combinations

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ation or collection of the various simple ideas of sensible qualities that we usually find united in the thing called horse or stone. Yet because we cannot conceive how they could subsist alone, or one in another, we suppose them to exist in and be supported by some common subject. *We denote this support by the name substance*, though it is certain that we have no clear or distinct idea of the thing we suppose to be a support.

As clear an idea of spirit as of body.—The same thing happens with the operations of the mind, namely thinking, reasoning, fearing, and so on. We conclude that these do not subsist of themselves, and we cannot see how they could belong to body or be produced by it. So we are apt to think them the actions of some other substance, which we call spirit. Yet we have no other idea or notion of matter than something in which the many sensible qualities that affect our senses subsist. So it is evident that by supposing a substance in which *thinking, knowing, doubting*, a power of moving, and so on

subsist, *we have as clear a notion of the substance of spirit as we have of body*. The one is supposed, without our knowing what it is, to be the *substratum* of the simple ideas we have from outside. The other is supposed, with a like ignorance of what it is, to be the substratum of the operations we experience within ourselves.

It is plain, then, that the idea of bodily *substance* in matter is as remote from our conceptions and apprehensions as that of spiritual *substance*, or spirit. So our having no notion of the substance of spirit no more lets us conclude that it does not exist than the same reason would let us deny the existence of body. It is as rational to say there is no body, because we have no clear and distinct idea of the *substance* of matter, as to say there is no spirit, because we have no clear and distinct idea of the substance of a spirit.

Of the sorts of substances.—Whatever the secret, abstract nature of substance in general may be, all *the ideas we have of particular distinct sorts of substances* are nothing but various combinations of simple ideas. These coexist in some cause of their union, unknown to us, that makes the whole sub-

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of simple ideas, and nothing else, that we represent particular sorts of *substances* to ourselves; such are the ideas we have of their several species in our minds; and such only do we, by their specific names, signify to others, v. g.

man, horse, sun, water, iron*: upon hearing which words, every one who understands the language, frames in his mind a combination of those several simple ideas which he has usually observed, or fancied to exist together under that denomination; all which he supposes to rest in, and be, as it were, adherent to that unknown common subject, which inheres not in any thing else. Though, in the mean time, it be manifest, and every one upon inquiry into his own thoughts will find, that he has no other idea of any* substance, v.

g. *let it be* gold, horse, iron, man, vitriol, bread*, but what he has barely of those sensible qualities which he supposes to inhere, with a supposition of such a* substratum, as gives, as it were, a support to those qualities or simple ideas which he has observed to exist united together. Thus, the idea of the sun, what is it but an aggregate of those several simple ideas, bright, hot, roundish, having a constant regular motion, at a certain distance from us, and perhaps some other? as he who thinks and discourses of the sun, has been more or less accurate in observing those sensible qualities, ideas, or properties, which are in that thing which he calls the sun.

2.23.7 *Power a great part of our complex ideas of substance.* —For he has the perfectest idea of any of the particular sorts of substances, who has gathered and put together most of those simple ideas which do exist in it, among which are to be reckoned its active powers and passive capacities; which, though not simple ideas, yet, in this respect, for brevity's sake, may conveniently enough be reckoned among them. Thus, the power of drawing iron is one of the ideas of the complex one of that substance we call a loadstone; and a power to be so drawn, is a part of the complex one we call iron: which powers pass for inherent qualities in those subjects.

Because every substance, being as apt, by the powers we observe in it, to change some sensible qualities in other subjects, as it is to produce in us those simple ideas which we receive immediately

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sist of itself. It is by such combinations of simple ideas, and nothing else, that we represent particular sorts of *substances* to ourselves. Such are the ideas we have in our minds of their various species, and these alone are what we signify to others by their specific names—for example,

man, horse, sun, water, iron. On hearing these words, everyone who understands the language frames in his mind a combination of the various simple ideas he has usually observed, or imagined, to exist together under that name. He supposes them all to rest in, and be as it were attached to, that unknown common subject which does not inhere in anything else. Yet meanwhile it is obvious, and anyone who looks into his own thoughts will find, that he has no other idea of any *substance*—say,

gold, horse, iron, man, vitriol, bread—than the idea of the sensible qualities he supposes to inhere in it. To this he adds the supposition of a *substratum* that gives, as it were, a support to those qualities or simple ideas he has observed to exist united together. Take the idea of the sun. What is it but an aggregate of various simple ideas: bright, hot, roundish, having a constant regular motion, at a certain distance from us, and perhaps some others? How many there are depends on how accurately the person who thinks and talks about the sun has observed the sensible qualities, ideas, or properties that are in the thing he calls the sun.

Power a great part of our complex ideas of substances. —For whoever has gathered and put together the most simple ideas that exist in a particular sort of substance has the most perfect idea of it. Its active powers and passive capacities are to be counted among these ideas. Though they are not simple ideas, for brevity's sake they may conveniently enough be counted among them in this respect. Thus the power of drawing iron is one of the ideas in the complex idea of the substance we call a lodestone, and a power to be so drawn is part of the complex idea we call iron. These powers pass for inherent qualities in those subjects.

For through the powers we observe in it, every substance is as apt to change some sensible qualities in other subjects as it is to produce in us the simple ideas we receive directly from it. So by the

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from it, does, by those new sensible qualities introduced into other subjects, discover to us those powers which do thereby mediately affect our senses, as regularly as its sensible qualities do it immediately, v.

g. we immediately, by our senses, perceive in fire its heat and colour: which are, if rightly considered, nothing but powers in it to produce those ideas in us; we also, by our senses, perceive the colour and brittleness of charcoal, whereby we come by the knowledge of another power in fire, which it has to change the colour and consistency of wood. By the former fire immediately, by the latter it mediately discovers to us these several qualities, which therefore we look upon to be a part of the qualities of fire, and so make them a part of the complex idea of it.

For all those powers that we take cognizance of, terminating only in the alteration of some sensible qualities in those subjects on which they operate, and so making them exhibit to us new sensible ideas: therefore it is that I have reckoned these powers among the simple ideas, which make the complex ones of the sorts of substances; though these powers, considered in themselves, are truly complex ideas. And in this looser sense I crave leave to be understood, when I name any of these potentialities among the simple ideas, which we recollect in our minds, when we think of particular substances.

For the powers that are severally in them are necessary to be considered, if we will have true distinct notions of the several sorts of substances.

2.23.8 *And why.*—Nor are we to wonder, that powers make a great part of our complex ideas of substances; since their secondary qualities are those, which in most of them serve principally to distinguish substances one from another, and commonly make a considerable part of the complex idea of the several sorts of them. For our senses failing us in the discovery of the bulk, texture, and figure of the minute parts of bodies, on which their real constitutions and differences depend, we are fain to make use of their secondary qualities, as the characteristical notes and marks whereby to frame ideas of them in our minds, and distinguish them one from another.

All which secondary qualities, as has been shown, are nothing but bare powers. For the colour and

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new sensible qualities it introduces into other subjects, it reveals to us those powers. Through those qualities the powers affect our senses indirectly, as regularly as the substance's own sensible qualities affect them directly. For example,

we directly perceive by our senses the heat and color of fire, which, rightly considered, are nothing but powers in it to produce those ideas in us. We also perceive by our senses the color and brittleness of charcoal, and in this way we come to know another power in fire, its power to change the color and consistency of wood. Fire reveals the first of these qualities to us directly and the second indirectly. So we regard both as part of the qualities of fire, and make them part of our complex idea of it.

All the powers we take notice of end only in altering some sensible qualities in the subjects they act on, so that those subjects present new sensible ideas to us. That is why I have counted these powers among the simple ideas that make up the complex ideas of the sorts of substances, though these powers, considered in themselves, are really complex ideas. I ask to be understood in this looser sense when I name any of these potentialities among the simple ideas that we call to mind when we think of particular substances.

For if we want true, distinct notions of the various sorts of substances, we must consider the powers that are in each of them.

And why.—Nor should we be surprised that powers make up a great part of our complex ideas of substances. In most substances, it is chiefly their secondary qualities that distinguish them from one another, and these commonly make up a considerable part of the complex idea of each sort. For our senses fail to discover the bulk, texture, and shape of the minute parts of bodies, on which their real constitutions and differences depend. So we are obliged to use their secondary qualities as the characteristic signs and marks by which we frame ideas of them in our minds and distinguish them from one another.

And all these secondary qualities, as has been shown, are nothing but bare powers. The color

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taste of opium are, as well as its soporific or anodyne virtues, mere powers depending on its primary qualities, whereby it is fitted to produce different operations on different parts of our bodies.

2.23.9 *Three sorts of ideas make our complex ones of substances.*—The ideas that make our complex ones of corporeal substances are of these three sorts. First, the ideas of the primary qualities of things, which are discovered by our senses, and are in them even when we perceive them not; such are the bulk, figure, number, situation, and motion of the parts of bodies, which are really in them, whether we take notice of them or no. Secondly, the sensible secondary qualities, which depending on these, are nothing but the powers those substances have to produce several ideas in us by our senses; which ideas are not in the things themselves, otherwise than as any thing is in its cause.

Thirdly, the aptness we consider in any substance to give or receive such alterations of primary qualities, as that the substance so altered should produce in us different ideas from what it did before; these are called active and passive powers; all which powers, as far as we have any notice or notion of them, terminate only in sensible simple ideas.

For whatever alteration a loadstone has the power to make in the minute particles of iron, we should have no notion of any power it had at all to operate on iron, did not its sensible motion discover it: and I doubt not but there are a thousand changes, that bodies we daily handle have a power to cause in one another, which we never suspect, because they never appear in sensible effects.

2.23.10 *Powers make a great part of our complex ideas of substances.*—Powers therefore justly make a great part of our complex ideas of substances. He that will examine his complex idea of gold, will find several of its ideas that make it up to be only powers, as the power of being melted, but of not spending itself in the fire; of being dissolved in aqua regia; are ideas as necessary to make up our complex idea of gold, as its colour and weight which, if duly considered, are also nothing but different powers.

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and taste of opium are mere powers, just as its soporific or pain-relieving virtues are. They depend on its primary qualities, which fit it to produce different operations on different parts of our bodies.

Three sorts of ideas make up our complex ideas of substances.—The ideas that make up our complex ideas of bodily substances are of three sorts. First, the ideas of the primary qualities of things. Our senses discover these, and they are in the things even when we do not perceive them. Such are the bulk, shape, number, situation, and motion of the parts of bodies, which are really in them whether we notice them or not. Second, the sensible secondary qualities, which depend on these. They are nothing but the powers those substances have to produce various ideas in us through our senses, and these ideas are not in the things themselves, except as anything is in its cause.

Third, the aptness we consider in a substance to give or receive such alterations of primary qualities that the altered substance would produce in us ideas different from those it produced before. These are called active and passive powers. As far as we have any awareness or notion of them, all these powers end only in sensible simple ideas.

For whatever alteration a lodestone has the power to make in the minute particles of iron, we would have no notion that it had any power at all to act on iron if its sensible motion did not reveal it. And I do not doubt that the bodies we handle every day have the power to cause a thousand changes in one another that we never suspect, because those changes never show themselves in sensible effects.

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For to speak truly, yellowness is not actually in gold; but is a power in gold to produce that idea in us by our eyes, when placed in a due light: and the heat which we cannot leave out of our ideas of the sun, is no more really in the sun, than the white colour it introduces into wax. These are both equally powers in the sun, operating, by the motion and figure of its insensible parts, so on a man, as to make him have the idea of heat; and so on wax, as to make it capable to produce in a man the idea of white.

2.23.11 *The new secondary qualities of bodies would disappear, if we could discover the primary ones of their minute parts.*—Had we senses acute enough to discern the minute particles of bodies, and the real constitution on which their sensible qualities depend, I doubt not but they would produce quite different ideas in us; and that which is now the yellow colour of gold would then disappear, and instead of it we should see an admirable texture of parts of a certain size and figure.

This microscopes plainly discover to us; for what to our naked eyes produces a certain colour, is, by thus augmenting the acuteness of our senses, discovered to be quite a different thing; and the thus altering, as it were, the proportion of the bulk of the minute parts of a coloured object to our usual sight, produces different ideas from what it did before. Thus sand or pounded glass, which is opaque, and white to the naked eye, is pellucid in a microscope; and a hair seen this way loses its former colour, and is in a great measure pellucid, with a mixture of some bright sparkling colours, such as appear from the refraction of diamonds, and other pellucid bodies.

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Powers make a great part of our complex ideas of substances.—So powers rightly make up a great part of our complex ideas of substances. Anyone who examines his complex idea of gold will find that several of the ideas that make it up are only powers. The power of being melted without being consumed in the fire, and of being dissolved in aqua regia, are ideas as necessary to our complex idea of gold as its color and weight. And color and weight, if properly considered, are also nothing but different powers.[6]

For, to speak truly, yellowness is not actually in gold. It is a power in gold to produce that idea in us through our eyes when the gold is placed in a suitable light. And the heat, which we cannot leave out of our idea of the sun, is no more really in the sun than the white color it produces in wax. Both are equally powers in the sun. By the motion and shape of its insensible parts, the sun acts on a man so as to make him have the idea of heat, and acts on wax so as to make it able to produce in a man the idea of white.

The present secondary qualities of bodies would disappear if we could discover the primary qualities of their minute parts.—Suppose we had senses sharp enough to make out the minute particles of bodies, and the real constitution on which their sensible qualities depend. I have no doubt these would then produce quite different ideas in us. What is now the yellow color of gold would disappear, and in its place we would see a wonderful texture of parts of a certain size and shape.

Microscopes plainly show us this. What produces a certain color to our naked eyes is found to be quite a different thing when the sharpness of our senses is increased in this way. This change alters, so to speak, the proportion between the size of the minute parts of a colored object and our ordinary sight, and so it produces different ideas from those the object produced before. So sand or pounded glass, which is opaque and white to the naked eye, is transparent under a microscope. And a hair seen this way loses its former color and becomes largely transparent, with a mixture of some bright sparkling colors, like those that come from the re-

6 Aqua regia ("royal water"): a mixture of nitric and hydrochloric acids, known for dissolving gold.

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Blood to the naked eye appears all red; but by a good microscope, wherein its lesser parts appear, shows only some few globules of red, swimming in a pellucid liquor: and how these red globules would appear, if glasses could be found that could yet magnify them a thousand or ten thousand times more, is uncertain.

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fraction of diamonds and other transparent bodies.

Blood looks entirely red to the naked eye. But a good microscope, in which its smaller parts can be seen, shows only a few red globules floating in a transparent liquid. And how these red globules would look if lenses could be found to magnify them a thousand or ten thousand times more is uncertain.

FACULTIES SUITED TO OUR STATE

Locke argues that God fitted our senses to the needs of this life, not to seeing the minute parts of things.

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2.23.12 *Our faculties of discovery suited to our state.*—The infinitely wise contriver of us, and all things about us, hath fitted our senses, faculties and organs to the conveniences of life, and the business we have to do here. We are able, by our senses, to know and distinguish things: and to examine them so far, as to apply them to our uses, and several ways to accommodate the exigencies of this life. We have insight enough into their admirable contrivances and wonderful effects, to admire and magnify the wisdom, power, and goodness of their author. Such a knowledge as this, which is suited to our present condition, we want not faculties to attain.

But it appears not that God intended we should have a perfect, clear, and adequate knowledge of them: that perhaps is not in the comprehension of any finite being. We are furnished with faculties, (dull and weak as they are) to discover enough in the creatures, to lead us to the knowledge of the Creator, and the knowledge of our duty; and we are fitted well enough with abilities to provide for the conveniences of living: these are our business in this world.

But were our senses altered, and made much quicker and acuter, the appearance and outward scheme of things would have quite another face to us; and, I am apt to think, would be inconsistent with our being, or at least well-being, in this part of the universe which we inhabit. He that considers how little our constitution is able to bear a remove into parts of this air, not much higher than that we commonly breathe in, will have reason to be satisfied that in this globe of earth allotted for our mansion the

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Our faculties of discovery suited to our state.—The infinitely wise designer of us, and of everything around us, has fitted our senses, faculties, and organs to the conveniences of life and to the business we have to do here. By our senses we are able to know and distinguish things. We can examine them far enough to put them to our uses and to meet the needs of this life in various ways. We have insight enough into their admirable design and wonderful effects to admire and praise the wisdom, power, and goodness of their author. Knowledge of this kind is suited to our present condition, and we do not lack the faculties to attain it.

But it does not appear that God intended us to have a perfect, clear, and adequate knowledge of things; that is perhaps beyond the grasp of any finite being. We are furnished with faculties, dull and weak as they are, that let us discover enough in created things to lead us to the knowledge of the Creator and the knowledge of our duty. And we have abilities well enough suited to providing for the conveniences of living. These are our business in this world.

But if our senses were altered and made much quicker and sharper, the appearance and outward pattern of things would look quite different to us. I am inclined to think this would be inconsistent with our being, or at least our well-being, in the part of the universe we inhabit. Consider how poorly our constitution can bear being moved into regions of the air not much higher than the one we ordinarily breathe. Anyone who considers this will have reason to be satisfied that, on this globe

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all-wise Architect has suited our organs, and the bodies that are to affect them, one to another.

If our sense of hearing were but one thousand times quicker than it is, how would a perpetual noise distract us! And we should in the quietest retirement be less able to sleep or meditate, than in the middle of a sea-fight.

Nay, if that most instructive of our senses, seeing, were in any man a thousand or an hundred thousand times more acute than it is by the best microscope, things several millions of times less than the smallest object of his sight now would then be visible to his naked eyes, and so he would come nearer to the discovery of the texture and motion of the minute parts of corporeal things; and in many of them, probably, get ideas of their internal constitutions. But then he would be in a quite different world from other people; nothing would appear the same to him and others; the visible ideas of every thing would be different.

So that I doubt whether he and the rest of men could discourse concerning the objects of sight, or have any communication about colours, their appearances being so wholly different. And perhaps such a quickness and tenderness of sight could not endure bright sunshine, or so much as open daylight; nor take in but a very small part of any object at once, and that too only at a very near distance.

And if by the help of such microscopical eyes (if I may so call them) a man could penetrate farther than ordinary into the secret composition and radical texture of bodies, he would not make any great advantage by the change, if such an acute sight would not serve to conduct him to the market and exchange; if he could not see things he was to avoid at a convenient distance, nor distinguish things he had to do with by those sensible qualities others do.

He that was sharp-sighted enough to see the configuration of the minute particles of the spring of a clock, and observe upon what peculiar structure and impulse its elastic motion depends, would no doubt discover something very admirable; but if eyes so framed could not view at once the hand and the characters of the hour-plate, and thereby at a distance see what o'clock it

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of earth assigned as our dwelling, the all-wise Architect has suited our organs and the bodies that are to affect them to one another.

If our sense of hearing were only a thousand times sharper than it is, how a perpetual noise would distract us! Even in the quietest retreat we would be less able to sleep or meditate than in the middle of a sea battle.

Indeed, take seeing, the most instructive of our senses. Suppose that in some man it were a thousand or a hundred thousand times sharper than it is with the best microscope. Things several million times smaller than the smallest object he can now see would then be visible to his naked eyes. He would thus come closer to discovering the texture and motion of the minute parts of bodily things, and in many of them he would probably get ideas of their internal constitutions. But then he would be in a quite different world from other people. Nothing would appear the same to him as to others; the visible ideas of everything would be different.

So I doubt whether he and the rest of mankind could talk about the objects of sight, or communicate at all about colors, since the appearances would be so entirely different. And perhaps sight so quick and delicate could not bear bright sunshine, or even open daylight. It might take in only a very small part of any object at a time, and only at very close range.

Suppose that with the help of such microscopic eyes, if I may call them that, a man could see further than usual into the secret composition and fundamental texture of bodies. He would still not gain much by the change if such sharp sight could not guide him to the market and the exchange. He would gain little if he could not see the things he needed to avoid at a convenient distance, or tell apart the things he had to deal with by the sensible qualities other people use.

Someone sharp-sighted enough to see the arrangement of the minute particles in the spring of a clock, and to observe the particular structure and impulse on which its elastic motion depends, would no doubt discover something very remarkable. But suppose eyes built that way could not take in the hand and the numerals of the dial at once, and so see from a distance what time it was.

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was, their owner could not be much benefited by that acuteness; which, whilst it discovered the secret contrivance of the parts of the machine, made him lose its use.

2.23.13 *Conjecture about spirits.*—And here give me leave to propose an extravagant conjecture of mine, viz. that since we have some reason (if there be any credit to be given to the report of things that our philosophy cannot account for) to imagine that spirits can assume to themselves bodies of different bulk, figure, and conformation of parts; whether one great advantage some of them have over us may not lie in this, that they can so frame and shape to themselves organs of sensation or perception as to suit them to their present design, and the circumstances of the object they would consider.

For how much would that man exceed all others in knowledge, who had but the faculty so to order the structure of his eyes, that one sense, as to make it capable of all the several degrees of vision which the assistance of glasses (casually at first lighted on) has taught us to conceive? What wonders would he discover, who could so fit his eyes to all sorts of objects, as to see, when he pleased, the figure and motion of the minute particles in the blood, and other juices of animals, as distinctly as he does, at other times, the shape and motion of the animals themselves?

But to us, in our present state, unalterable organs so contrived as to discover the figure and motion of the minute parts of bodies, whereon depend those sensible qualities we now observe in them, would perhaps be of no advantage. God has, no doubt, made them so as is best for us in our present condition. He hath fitted us for the neighbourhood of the bodies that surround us, and we have to do with: and though we cannot, by the faculties we have, attain to a perfect knowledge of things, yet they will serve us well enough for those ends above mentioned, which are our great concernment.

I beg my reader's pardon for laying before him so wild a fancy, concerning the ways of perception in beings above us; but how extravagant soever it be, I doubt whether we can imagine any thing about the knowledge of angels, but after this manner, some way or other, in proportion to what we find and observe in ourselves. And though we

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Then their owner could not benefit much from that sharpness. While it revealed the secret design of the machine's parts, it would make him lose the machine's use.

Conjecture about spirits.—And here allow me to propose a far-fetched conjecture of mine. If any credit is to be given to reports of things our philosophy cannot account for, we have some reason to imagine that spirits can take on bodies of different size, shape, and arrangement of parts. So I wonder whether one great advantage some of them have over us may lie in this. Perhaps they can frame and shape for themselves organs of sensation or perception suited to their present purpose and to the circumstances of the object they want to consider.

For how far would a man surpass all others in knowledge if he only had the ability to arrange the structure of his eyes, that one sense, so as to make it capable of all the different degrees of vision that lenses have taught us to conceive? (Lenses were first hit upon by chance.) What wonders would he discover if he could adjust his eyes to all sorts of objects? Whenever he pleased, he could see the shape and motion of the minute particles in the blood and other fluids of animals as distinctly as at other times he sees the shape and motion of the animals themselves.

But to us, in our present state, unchangeable organs designed to discover the shape and motion of the minute parts of bodies would perhaps be of no advantage, even though the sensible qualities we now observe in bodies depend on those parts. God has no doubt made our organs in the way that is best for us in our present condition. He has fitted us for the neighborhood of the bodies that surround us and that we have to deal with. And though we cannot attain a perfect knowledge of things with the faculties we have, they will serve us well enough for the ends mentioned above, which are our great concern.

I beg my reader's pardon for setting before him so wild a fancy about the ways of perception in beings above us. But however far-fetched it may be, I doubt whether we can imagine anything about the knowledge of angels except in this way, somehow or other in proportion to what we find and observe in ourselves. We must allow that the infinite

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cannot but allow, that the infinite power and wisdom of God may frame creatures with a thousand other faculties and ways of perceiving things without them than what we have, yet our thoughts can go no farther than our own; so impossible it is for us to enlarge our very guesses beyond the ideas received from our own sensation and reflection.

The supposition, at least, that angels do sometimes assume bodies, needs not startle us; since some of the most ancient and most learned fathers of the church seemed to believe that they had bodies: and this is certain, that their state and way of existence is unknown to us.

2.23.14 *Complex ideas of substances.*—But to return to the matter in hand; the ideas we have of substances, and the ways we come by them,—I say, our specific ideas of substances are nothing else but a collection of a certain number of simple ideas, considered as united in one thing. These ideas of substances, though they are commonly simple apprehensions, and the names of them simple terms, yet in effect are complex and compounded.

Thus the idea which an Englishman signifies by the name swan, is white colour, long neck, red beak, black legs, and whole feet, and all these of a certain size, with a power of swimming in the water, and making a certain kind of noise and perhaps, to a man who has long observed this kind of birds, some other properties which all terminate in sensible simple ideas, all united in one common subject.

2.23.15 *Idea of spiritual substances as clear as of bodily substances.*—Besides the complex ideas we have of material sensible substances, of which I have last spoken, by the simple ideas we have taken from those operations of our own minds which we experiment daily in ourselves, as thinking, understanding, willing, knowing, and power of beginning motion, &c. co-existing in some substance; we are able to frame the complex idea of an immaterial spirit. And thus, by putting together the ideas of thinking, perceiving, liberty, and power of moving themselves and other things, we have as clear a perception and notion of immaterial substances as we have of material.

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power and wisdom of God may create beings with a thousand other faculties and ways of perceiving outside things besides the ones we have. Yet our thoughts can go no further than our own. That is how impossible it is for us to extend even our guesses beyond the ideas received from our own sensation and reflection.

At any rate, the supposition that angels sometimes take on bodies need not startle us, since some of the most ancient and most learned Fathers of the Church seemed to believe that angels had bodies. And this much is certain: their state and way of existence are unknown to us.[7]

Complex ideas of substances.—But to return to the matter at hand, the ideas we have of substances and the ways we come by them. I say that our specific ideas of substances are nothing but a collection of a certain number of simple ideas, considered as united in one thing. These ideas of substances are commonly simple apprehensions, and their names are simple terms. Even so, they are in fact complex and compounded.

So the idea an Englishman signifies by the name *swan* is white color, long neck, red beak, black legs, and webbed feet, all of a certain size, with a power of swimming in the water and making a certain kind of noise. For someone who has long observed this kind of bird, the idea may include some other properties as well. All of these end in sensible simple ideas, united in one common subject.

Idea of spiritual substances as clear as of bodily substances.—Besides the complex ideas we have of material sensible substances, which I have just discussed, we are able to frame the complex idea of an immaterial spirit. We do it from the simple ideas we have taken from the operations of our own minds, which we experience daily in ourselves: thinking, understanding, willing, knowing, the power of beginning motion, and so on, considered as coexisting in some substance. And so, by putting together the ideas of thinking, perceiving, liberty, and the power of moving themselves and other things, we have as clear a

7 Early Christian writers such as Tertullian and Origen were often cited as holding that angels have subtle bodies.

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For putting together the ideas of thinking and willing, or the power of moving or quieting corporeal motion, joined to substance, of which we have no distinct idea, we have the idea of an immaterial spirit and by putting together the ideas of coherent solid parts, and a power of being moved, joined with substance, of which likewise we have no positive idea, we have the idea of matter.

The one is as clear and distinct an idea as the other: the idea of thinking, and moving a body, being as clear and distinct ideas as the ideas of extension, solidity, and being moved: for our idea of substance is equally obscure, or none at all in both; it is but a supposed I know not what, to support those ideas we call accidents. It is for want of reflection that we are apt to think that our senses show us nothing but material things. Every act of sensation, when duly considered, gives us an equal view of both parts of nature, the corporeal and spiritual. For whilst I know, by seeing or hearing, &c.

that there is some corporeal being without me, the object of that sensation; I do more certainly know, that there is some spiritual being within me that sees and hears. This, I must be convinced, cannot be the action of bare insensible matter; nor ever could be, without an immaterial thinking being.

2.23.16 *No idea of abstract substance.*—By the complex idea of extended, figured, coloured, and all other sensible qualities, which is all that we know of it, we are as far from the idea of the substance of body as if we knew nothing at all: nor after all the acquaintance and familiarity which we imagine we have with matter, and the many qualities men assure themselves they perceive and know in bodies, will it perhaps upon examination be found, that they have any more or clearer primary ideas belonging to body, than they have belonging to immaterial spirit.

2.23.17 *The cohesion of solid parts and impulse of primary ideas of body.*—The primary ideas we have peculiar to body, as contradistinguished to spirit, are the cohesion of solid, and consequently separable, parts, and a power of communicating motion by

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perception and notion of immaterial substances as we have of material ones.

For we put together the ideas of thinking and willing, or of the power of moving or stopping bodily motion, and join them to substance, of which we have no distinct idea. That gives us the idea of an immaterial spirit. And we put together the ideas of coherent solid parts and a power of being moved, and join them with substance, of which we likewise have no positive idea. That gives us the idea of matter.

The one idea is as clear and distinct as the other. The ideas of thinking and of moving a body are as clear and distinct as the ideas of extension, solidity, and being moved. For our idea of substance is equally obscure, or nonexistent, in both cases; it is only a supposed I-know-not-what that supports the ideas we call accidents. It is from lack of reflection that we tend to think our senses show us nothing but material things. Every act of sensation, properly considered, gives us an equal view of both parts of nature, the bodily and the spiritual. For while I know, by seeing or hearing and so on,

that there is some bodily being outside me, the object of that sensation, I know more certainly that there is some spiritual being within me that sees and hears. I must be convinced that this cannot be the action of bare insensible matter, and never could be without an immaterial thinking being.

No idea of abstract substance.—We know body only through the complex idea of what is extended, shaped, colored, and has all the other sensible qualities. By that idea we are as far from the idea of the substance of body as if we knew nothing at all. We imagine we are well acquainted and familiar with matter, and people are confident they perceive and know many qualities in bodies. Yet on examination it may turn out that they have no more primary ideas belonging to body, and no clearer ones, than they have belonging to immaterial spirit.

The cohesion of solid parts and impulse the primary ideas of body.—The primary ideas we have that are peculiar to body, as distinguished from spirit, are these: the cohesion of solid, and therefore separable, parts, and a power of communicating motion

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impulse. These, I think, are the original ideas proper and peculiar to body; for figure is but the consequence of finite extension.

2.23.18 *Thinking and motivity the primary ideas of spirit.*—The ideas we have belonging and peculiar to spirit are thinking and will, or a power of putting body into motion by thought, and, which is consequent to it, liberty. For as body cannot but communicate its motion by impulse to another body, which it meets with at rest, so the mind can put bodies into motion, or forbear to do so, as it pleases. The ideas of existence, duration, and mobility, are common to them both.

2.23.19 *Spirits capable of motion.*—There is no reason why it should be thought strange, that I make mobility belong to spirit: for having no other idea of motion but change of distance with other beings that are considered as at rest, and finding that spirits, as well as bodies, cannot operate but where they are, and that spirits do operate at several times in several places, I cannot but attribute change of place to all finite spirits (for of the infinite spirit I speak not here). For my soul being a real being, as well as my body, is certainly as capable of changing distance with any other body, or being, as body itself, and so is capable of motion.

And if a mathematician can consider a certain distance, or a change of that distance between two points, one may certainly conceive a distance and a change of distance between two spirits; and so conceive their motion, their approach or removal, one from another.

2.23.20 Every one finds in himself, that his soul can think, will, and operate on his body in the place where that is; but cannot operate on a body or in a place an hundred miles distant from it.

Nobody can imagine that his soul can think or move a body at Oxford, whilst he is at London; and cannot but know, that, being united to his body, it constantly changes place all the whole journey between Oxford and London, as the coach or horse does that carries him, and I think may be said to be truly all that while in motion; or if that will not be allowed to afford us a clear idea enough of its motion, its being separated from the body in death, I think, will; for to consider it as

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by impulse. These, I think, are the original ideas proper and peculiar to body. Shape is only the consequence of finite extension.

Thinking and motivity the primary ideas of spirit.—The ideas we have that belong and are peculiar to spirit are thinking and will, or a power of putting body into motion by thought, and liberty, which follows from this. A body cannot help communicating its motion by impulse to another body it meets at rest. The mind, by contrast, can put bodies into motion or refrain from doing so, as it pleases. The ideas of existence, duration, and mobility are common to both.

Spirits capable of motion.—There is no reason why anyone should find it strange that I assign mobility to spirit. I have no other idea of motion than change of distance from other beings that are considered as at rest. I find that spirits, like bodies, cannot operate except where they are, and that spirits do operate at different times in different places. So I cannot help attributing change of place to all finite spirits. (I am not speaking here of the infinite spirit.) For my soul is a real being, just as my body is. It is therefore certainly as capable of changing its distance from any other body or being as body itself is, and so it is capable of motion.

And if a mathematician can consider a certain distance between two points, or a change in that distance, we can certainly conceive a distance and a change of distance between two spirits. So we can conceive their motion, their approaching one another or moving apart.

Everyone finds in himself that his soul can think, will, and act on his body in the place where his body is. But it cannot act on a body a hundred miles away, or in a place that far off.

Nobody can imagine that his soul can think or move a body at Oxford while he is in London. And he cannot help knowing that his soul, being united to his body, constantly changes place throughout the whole journey between Oxford and London, just as the coach or horse that carries him does. I think it may truly be said to be in motion all that time. Perhaps someone will not grant that this gives us a clear enough idea of its motion. Then its separation from the body at death will, I

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going out of the body, or leaving it, and yet to have no idea of its motion, seems to me impossible.

2.23.21 If it be said by any one that it cannot change place, because it hath none, for spirits are not in *loco*, but *ubi*; I suppose that way of talking will not now be of much weight to many, in an age that is not much disposed to admire or suffer themselves to be deceived by such unintelligible ways of speaking. But if any one thinks there is any sense in that distinction, and that it is applicable to our present purpose, I desire him to put it into intelligible English; and then from thence draw a reason to show that immaterial spirits are not capable of motion.

Indeed motion cannot be attributed to God; not because he is an immaterial, but because he is an infinite spirit.

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think. To consider the soul as going out of the body, or leaving it, and yet to have no idea of its motion, seems impossible to me.

Someone may say that the soul cannot change place because it has no place, since spirits are not *in loco* but *ubi*. I suppose that way of talking will not carry much weight with many people now. This age is not much inclined to admire such unintelligible ways of speaking, or to let itself be deceived by them. But if anyone thinks there is sense in that distinction, and that it applies to our present purpose, I ask him to put it into intelligible English. Then let him draw from it a reason to show that immaterial spirits are not capable of motion.[8]

Motion, indeed, cannot be attributed to God. That is not because he is an immaterial spirit, but because he is an infinite one.

SOUL AND BODY COMPARED

Locke argues that the cohesion of body is as hard to understand as thinking, so spirit is as clear as body.

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2.23.22 *Idea of soul and body compared.*—Let us compare then our complex idea of an immaterial spirit with our complex idea of body, and see whether there be any more obscurity in one than in the other, and in which most. Our idea of body, as I think, is an extended solid substance, capable of communicating motion by impulse; and our idea of soul, as an immaterial spirit, is of a substance that thinks, and has a power of exciting motion in body, by willing or thought. These, I think, are our complex ideas of soul and body, as contradistinguished; and now let us examine which has most obscurity in it, and difficulty to be apprehended.

I know that people, whose thoughts are immersed in matter, and have so subjected their minds to their senses, that they seldom reflect on any thing beyond them, are apt to say, they cannot comprehend a thinking thing, which perhaps is true but I affirm, when they consider it well, they can no more comprehend an extended thing.

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Idea of soul and body compared.—Let us compare, then, our complex idea of an immaterial spirit with our complex idea of body. Let us see whether there is more obscurity in one than in the other, and which has more. Our idea of body, I think, is of an extended solid substance capable of communicating motion by impulse. Our idea of soul, as an immaterial spirit, is of a substance that thinks and has a power of producing motion in body by willing, or thought. These, I think, are our complex ideas of soul and body as distinguished from each other. Now let us examine which has the most obscurity in it and is hardest to grasp.

I know there are people whose thoughts are immersed in matter, and who have so subjected their minds to their senses that they seldom reflect on anything beyond them. Such people are apt to say they cannot comprehend a thinking thing. Perhaps that is true. But I maintain that, when they consider it well, they can no more comprehend an extended thing.

8 A scholastic distinction: bodies are "in a place" (*in loco*), occupying it by their dimensions, while spirits are only "somewhere" (*ubi*), present without occupying space.

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2.23.23 *Cohesion of solid parts in body as hard to be conceived as thinking in a soul.*—If any one say, he knows not what it is thinks in him, he means he knows not what the substance is of that thinking thing: no more, say I, knows he what the substance is of that solid thing. Farther, if he says he knows not how he thinks, I answer, neither knows he how he is extended; how the solid parts of body are united, or cohere together to make extension.

For though the pressure of the particles of air may account for the cohesion of several parts of matter, that are grosser than the particles of air, and have pores less than corpuscles of air, yet the weight or pressure of the air will not explain, nor can be a cause of the coherence of the particles of air themselves. And if the pressures of the ether, or any subtiler matter than the air, may unite, and hold fast together the parts of a particle of air, as well as other bodies; yet it cannot make bonds for itself, and hold together the parts that make up every the least corpuscle of that *materia subtilis*.

So that the hypothesis, how ingeniously soever explained, by showing that the parts of sensible bodies are held together by the pressure of other external insensible bodies, reaches not the parts of the ether itself; and by how much the more evident it proves that the parts of other bodies are held together by the external pressure of the ether, and can have no other conceivable cause of their cohesion and union, by so much the more it leaves us in the dark concerning the cohesion of the parts of the corpuscles of the ether itself; which we can neither conceive without parts, they being bodies, and divisible, nor yet how their parts cohere, they wanting that cause of cohesion, which is given of the cohesion of the parts of all other bodies.

2.23.24 But, in truth, the pressure of any ambient fluid, how great soever, can be no intelligible cause of the cohesion of the solid parts of matter. For though such a pressure may hinder the avulsion of two polished superficies, one from another, in a line perpendicular to them, as in the experiment of two polished marbles; yet it can never, in the least, hinder the separation by a motion, in a line

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Cohesion of solid parts in body as hard to be conceived as thinking in a soul.—If anyone says he does not know what it is that thinks in him, he means he does not know what the substance of that thinking thing is. No more, I say, does he know what the substance of that solid thing is. Further, if he says he does not know how he thinks, I answer that neither does he know how he is extended. He does not know how the solid parts of body are united, or cohere, to make extension.

The pressure of the particles of air may account for the cohesion of various parts of matter that are coarser than the particles of air and have pores smaller than the corpuscles of air. But the weight or pressure of the air will not explain the coherence of the particles of air themselves, and it cannot be the cause of it. Perhaps the pressure of the ether, or of some matter subtler than air, may unite and hold fast the parts of a particle of air, as well as those of other bodies. Still, it cannot make bonds for itself and hold together the parts that make up even the smallest corpuscle of that *materia subtilis*.[9]

So the hypothesis explains that the parts of sensible bodies are held together by the pressure of other, external, insensible bodies. But however ingeniously it is worked out, it does not reach the parts of the ether itself. The more clearly it proves that the parts of other bodies are held together by the external pressure of the ether, and can have no other conceivable cause of their cohesion and union, the more it leaves us in the dark about the cohesion of the parts of the corpuscles of the ether itself. We cannot conceive these corpuscles without parts, since they are bodies and divisible. Nor can we conceive how their parts cohere, since they lack the cause of cohesion that is offered for the parts of all other bodies.

But in truth, the pressure of a surrounding fluid, however great, can be no intelligible cause of the cohesion of the solid parts of matter. Such pressure may prevent two polished surfaces from being pulled apart in a line perpendicular to them, as in the experiment of the two polished marbles. But it can never in the least prevent their separa-

9 *Materia subtilis*: "subtle matter," the very fine fluid that fills space in Descartes' physics.

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parallel to those surfaces; because the ambient fluid, having a full liberty to succeed in each point of space, deserted by a lateral motion, resists such a motion of bodies so joined no more than it would resist the motion of that body, were it on all sides environed by that fluid, and touched no other body: and, therefore, if there were no other cause of cohesion, all parts of bodies must be easily separable by such a lateral sliding motion.

For if the pressure of the ether be the adequate cause of cohesion, wherever that cause operates not, there can be no cohesion. And since it cannot operate against such a lateral separation (as has been shown,) therefore in every imaginary plane, intersecting any mass of matter, there could be no more cohesion than of two polished surfaces, which will always, notwithstanding any imaginable pressure of a fluid, easily slide one from another.

So that, perhaps, how clear an idea soever we think we have of the extension of body, which is nothing but the cohesion of solid parts, he that shall well consider it in his mind may have reason to conclude, that it is as easy for him to have a clear idea how the soul thinks, as how body is extended. For since body is no farther nor otherwise extended than by the union and cohesion of its solid parts, we shall very ill comprehend the extension of body, without understanding wherein consists the union and cohesion of its parts; which seems to me as incomprehensible as the manner of thinking, and how it is performed.

2.23.25 I allow it is usual for most people to wonder how any one should find a difficulty in what they think they every day observe. Do we not see, will they be ready to say, the parts of bodies stick firmly together? Is there any thing more common? And what doubt can there be made of it? And the like, I say, concerning thinking and voluntary motion: do we not every moment experiment it in ourselves; and therefore can it be doubted?

The matter of fact is clear, I confess; but when we would a little nearer look into it, and consider how it is done, there I think we are at a loss, both

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tion by a motion in a line parallel to those surfaces. The surrounding fluid is entirely free to move into each point of space left empty by such a sideways motion. So it resists this motion of bodies joined in this way no more than it would resist the motion of a body surrounded on all sides by that fluid and touching no other body. Therefore, if there were no other cause of cohesion, all the parts of bodies would have to be easily separable by such a sideways sliding motion.[10]

For if the pressure of the ether is the adequate cause of cohesion, then wherever that cause does not operate there can be no cohesion. And it cannot operate against such a sideways separation, as has been shown. So take any imaginary plane cutting through any mass of matter. Along that plane there could be no more cohesion than there is between two polished surfaces, which will always slide easily off each other, whatever pressure of a fluid we imagine.

Perhaps, then, we think we have a very clear idea of the extension of body, which is nothing but the cohesion of solid parts. Yet anyone who considers it carefully in his mind may have reason to conclude that it is as easy for him to have a clear idea of how the soul thinks as of how body is extended. Body is extended no further, and in no other way, than by the union and cohesion of its solid parts. So we will understand the extension of body very poorly unless we understand what the union and cohesion of its parts consists in. And that seems to me as incomprehensible as the manner of thinking and how it is carried out.

I grant that most people tend to wonder how anyone could find a difficulty in what they think they observe every day. Do we not see, they will be quick to say, that the parts of bodies stick firmly together? Is anything more common? And how can there be any doubt about it? And I say the same about thinking and voluntary motion. Do we not experience them in ourselves every moment? So how can they be doubted?

The matter of fact is clear, I admit. But when we try to look a little closer and consider how it is done, I think we are at a loss in both cases. We can

10 Two polished marble slabs pressed together are hard to pull apart; the effect was commonly explained by the pressure of the surrounding air.

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in the one and the other; and can as little understand how the parts of body cohere, as how we ourselves perceive, or move.

I would have any one intelligibly explain to me how the parts of gold, or brass (that but now in fusion were as loose from one another as the particles of water or the sands of an hour glass,) come in a few moments to be so united, and adhere so strongly one to another, that the utmost force of men's arms cannot separate them: a considering man will, I suppose, be here at a loss to satisfy his own, or another man's understanding.

2.23.26 The little bodies that compose that fluid we call water are so extremely small, that I have never heard of any one, who by a microscope (and yet I have heard of some that have magnified to ten thousand, nay, to much above a hundred thousand times) pretended to perceive their distinct bulk, figure, or motion: and the particles of water are also so perfectly loose one from another, that the least force sensibly separates them. Nay, if we consider their perpetual motion, we must allow them to have no cohesion one with another; and yet let but a sharp cold come, they unite, they consolidate, these little atoms cohere, and are not, without great force, separable.

He that could find the bonds that tie these heaps of loose little bodies together so firmly; he that could make known the cement that makes them stick so fast one to another; would discover a great and yet unknown secret and yet, when that was done, would he be far enough from making the extension of body (which is the cohesion of its solid parts) intelligible, till he could show wherein consisted the union or consolidation of the parts of those bonds, or of that cement, or of the least particle of matter that exists.

Whereby it appears, that this primary and supposed obvious quality of body will be found, when examined, to be as incomprehensible as any thing belonging to our minds, and a solid extended substance as hard to be conceived as a thinking immaterial one, whatever difficulties some would raise against it.

2.23.27 For, to extend our thoughts a little farther, that pressure, which is brought to explain the

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no more understand how the parts of body cohere than how we ourselves perceive or move.

Take the parts of gold or brass. A moment ago, when molten, they were as loose from one another as the particles of water or the sand in an hourglass. In a few moments they become so united, and stick to one another so strongly, that the utmost force of men's arms cannot separate them. I would like someone to explain to me intelligibly how this happens. A thoughtful man will, I suppose, be at a loss here to satisfy his own understanding or anyone else's.

The little bodies that make up the fluid we call water are so extremely small that I have never heard of anyone who claimed to perceive their distinct size, shape, or motion with a microscope. And yet I have heard of microscopes that have magnified ten thousand times, and even far more than a hundred thousand times. The particles of water are also so completely loose from one another that the least force visibly separates them. Indeed, if we consider their perpetual motion, we must grant that they have no cohesion with one another. And yet let a sharp cold come, and they unite and solidify. These little atoms cohere and cannot be separated without great force.

Whoever could find the bonds that tie these heaps of loose little bodies together so firmly, or could make known the cement that makes them stick so fast to one another, would discover a great secret that is still unknown. And yet, even when that was done, he would be far from making the extension of body intelligible, since extension is the cohesion of its solid parts. He would not have made it intelligible until he could show what the union or consolidation consists in, whether of the parts of those bonds, or of that cement, or of the least particle of matter that exists.

This shows that the cohesion of solid parts, a primary and supposedly obvious quality of body, will be found on examination to be as incomprehensible as anything belonging to our minds. A solid extended substance is as hard to conceive as a thinking immaterial one, whatever difficulties some would raise against the thinking one.

To extend our thoughts a little further: the pressure brought in to explain the cohesion of bodies

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cohesion of bodies, is as unintelligible as the cohesion itself. For if matter be considered, as no doubt it is, finite, let any one send his contemplation to the extremities of the universe, and there see what conceivable hoops, what bond he can imagine to hold this mass of matter in so close a pressure together; from whence steel has its firmness, and the parts of a diamond their hardness and indissolubility. If matter be finite, it must have its extremes; and there must be something to hinder it from scattering asunder.

If, to avoid this difficulty, any one will throw himself into the supposition and abyss of infinite matter, let him consider what light he thereby brings to the cohesion of body, and whether he be ever the nearer making it intelligible by resolving it into a supposition the most absurd and most incomprehensible of all other: so far is our extension of body (which is nothing but the cohesion of solid parts) from being clearer, or more distinct, when we would inquire into the nature, cause, or manner of it, than the idea of thinking.

2.23.28 *Communication of motion by impulse, or by thought, equally intelligible.*—Another idea we have of body is the power of communication of motion by impulse; and of our souls, the power of exciting motion by thought. These ideas, the one of body, the other of our minds, every day's experience clearly furnishes us with: but if here again we inquire how this is done, we are equally in the dark.

For to the communication of motion by impulse, wherein as much motion is lost to one body as is got to the other, which is the most ordinary case, we can have no other conception but of the passing of motion out of one body into another; which, I think, is as obscure and unconceivable, as how our minds move or stop our bodies by thought: which we every moment find they do. The increase of motion by impulse, which is observed or believed sometimes to happen, is yet harder to be understood.

We have by daily experience clear evidence of motion produced both by impulse and by thought; but the manner, how, hardly comes within our comprehension; we are equally at a loss in both. So that however we consider motion, and its communication, either from body or

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is as unintelligible as the cohesion itself. Matter is no doubt finite, so let us consider it that way. Let anyone send his thoughts to the outer limits of the universe. There let him see what conceivable hoops, what bond, he can imagine that holds this mass of matter pressed so closely together, and so gives steel its firmness and the parts of a diamond their hardness and indissolubility. If matter is finite, it must have its limits, and there must be something to keep it from scattering apart.

Suppose someone, to avoid this difficulty, throws himself into the supposition, and the abyss, of infinite matter. Let him consider what light that throws on the cohesion of body. Is he any nearer making it intelligible by reducing it to a supposition more absurd and incomprehensible than any other? So far is our idea of the extension of body, which is nothing but the cohesion of solid parts, from being clearer or more distinct than the idea of thinking, when we try to inquire into its nature, cause, or manner.

Communication of motion by impulse, or by thought, equally intelligible.—Another idea we have of body is the power of communicating motion by impulse; and another idea we have of our souls is the power of producing motion by thought. Everyday experience clearly furnishes us with these ideas, the one of body, the other of our minds. But if here again we ask how this is done, we are equally in the dark.

Take the communication of motion by impulse, in which one body loses as much motion as the other gains. This is the most ordinary case, and we can conceive of it only as motion passing out of one body into another. That, I think, is as obscure and inconceivable as how our minds move or stop our bodies by thought, which we find every moment that they do. And the increase of motion by impulse, which is observed or believed to happen sometimes, is harder still to understand.

Daily experience gives us clear evidence of motion produced both by impulse and by thought. But the manner of it, the how, hardly comes within our comprehension; we are equally at a loss in both cases. So however we consider motion and its communication, whether from body or from spir-

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spirit, the idea which belongs to spirit is at least as clear as that which belongs to body.

And if we consider the active power of moving, or as I may call it, motivity, it is much clearer in spirit than body; since two bodies, placed by one another at rest, will never afford us the idea of a power in the one to move the other, but by a borrowed motion; whereas the mind, every day, affords us ideas of an active power of moving of bodies; and therefore it is worth our consideration, whether active power be not the proper attribute of spirits, and passive power of matter. Hence may be conjectured, that created spirits are not totally separate from matter, because they are both active and passive. Pure spirit, viz.

God, is only active; pure matter is only passive; those beings that are both active and passive, we may judge to partake of both. But be that as it will, I think we have as many, and as clear ideas belonging to spirit as we have belonging to body, the substance of each being equally unknown to us; and the idea of thinking in spirit as clear as of extension in body; and the communication of motion by thought, which we attribute to spirit, is as evident as that by impulse, which we ascribe to body. Constant experience makes us sensible of both these, though our narrow understandings can comprehend neither.

For when the mind would look beyond those original ideas we have from sensation or reflection, and penetrate into their causes, and manner of production, we find still it discovers nothing but its own short-sightedness.

2.23.29 To conclude—sensation convinces us that there are solid extended substances, and reflection, that there are thinking ones; experience assures us of the existence of such beings, and that the one hath a power to move body by impulse, the other by thought; this we cannot doubt of. Experience, I say, every moment furnishes us with the clear ideas both of the one and the other. But beyond these ideas, as received from their proper sources, our faculties will not reach. If we would inquire farther into their nature, causes, and manner, we perceive not the nature of extension clearer than we do of thinking.

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it, the idea that belongs to spirit is at least as clear as the one that belongs to body.

And if we consider the active power of moving, or, as I may call it, motivity, it is much clearer in spirit than in body. Two bodies placed next to each other at rest will never give us the idea of a power in one to move the other, except by motion borrowed from something else. The mind, on the other hand, gives us ideas every day of an active power of moving bodies. It is therefore worth considering whether active power is not the proper attribute of spirits, and passive power the proper attribute of matter. From this it may be conjectured that created spirits are not entirely separate from matter, because they are both active and passive. Pure spirit, namely

God, is only active; pure matter is only passive; and we may judge that beings that are both active and passive share in both. But be that as it may, I think we have as many ideas belonging to spirit as we have belonging to body, and ideas as clear, though the substance of each is equally unknown to us. The idea of thinking in spirit is as clear as that of extension in body. And the communication of motion by thought, which we attribute to spirit, is as evident as communication by impulse, which we ascribe to body. Constant experience makes us aware of both, though our narrow understandings can comprehend neither.

For the mind may try to look beyond the original ideas we have from sensation or reflection, and to penetrate into their causes and the manner of their production. When it does, we find that it still discovers nothing but its own short-sightedness.

To conclude: sensation convinces us that there are solid extended substances, and reflection that there are thinking ones. Experience assures us that such beings exist, and that the one has a power to move body by impulse, the other by thought. This we cannot doubt. Experience, I say, furnishes us every moment with clear ideas of both. But our faculties will not reach beyond these ideas, as received from their proper sources. If we try to inquire further into their nature, causes, and manner, we perceive the nature of extension no more clearly than that of thinking.

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If we would explain them any farther, one is as easy as the other; and there is no more difficulty to conceive how a substance we know not should by thought set body into motion, than how a substance we know not should by impulse set body into motion. So that we are no more able to discover wherein the ideas belonging to body consist, than those belonging to spirit.

From whence it seems probable to me, that the simple ideas we receive from sensation and reflection are the boundaries of our thoughts; beyond which the mind, whatever efforts it would make, is not able to advance one jot; nor can it make any discoveries, when it would pry into the nature and hidden causes of those ideas.

2.23.30 *Idea of spirit and body compared.*—So that, in short, the idea we have of spirit, compared with the idea we have of body, stands thus: the substance of spirit is unknown to us; and so is the substance of body equally unknown to us. Two primary qualities or properties of body, viz. solid coherent parts and impulse, we have distinct clear ideas of: so likewise we know, and have distinct clear ideas of two primary qualities or properties of spirit, viz. thinking, and a power of action; *i. e.* a power of beginning or stopping several thoughts or motions.

We have also the ideas of several qualities, inherent in bodies, and have the clear distinct ideas of them; which qualities are but the various modifications of the extension of cohering solid parts and their motion. We have likewise the ideas of the several modes of thinking, viz. believing, doubting, intending, fearing, hoping; all which are but the several modes of thinking. We have also the ideas of willing, and moving the body consequent to it, and with the body itself too; for, as has been shown, spirit is capable of motion.

2.23.31 *The notion of spirit involves no more difficulty in it than that of body.*—Lastly, if this notion of immaterial spirit may have perhaps some difficulties in it not easy to be explained, we have therefore no more reason to deny or doubt the existence of such spirits, than we have to deny or doubt the existence of body; because the notion of body is cumbered with some difficulties very

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If we try to explain them any further, the one is as easy as the other. It is no harder to conceive how a substance we do not know should set body in motion by thought than how a substance we do not know should set body in motion by impulse. So we are no more able to discover what the ideas belonging to body consist in than what those belonging to spirit consist in.

From this it seems probable to me that the simple ideas we receive from sensation and reflection are the boundaries of our thoughts. Beyond them the mind cannot advance one jot, whatever efforts it makes. Nor can it make any discoveries when it tries to pry into the nature and hidden causes of those ideas.

Idea of spirit and body compared.—In short, then, the idea we have of spirit, compared with the idea we have of body, stands like this. The substance of spirit is unknown to us, and the substance of body is equally unknown to us. We have distinct, clear ideas of two primary qualities or properties of body, namely solid coherent parts and impulse. Likewise we know two primary qualities or properties of spirit and have distinct, clear ideas of them, namely thinking and a power of action, that is, a power of beginning or stopping various thoughts or motions.

We also have ideas of various qualities inherent in bodies, and these ideas are clear and distinct. These qualities are only the various modifications of the extension of cohering solid parts and of their motion. Likewise we have ideas of the various modes of thinking, namely believing, doubting, intending, fearing, hoping, all of which are only various modes of thinking. We also have the ideas of willing, of moving the body as a consequence of willing, and of moving along with the body itself too. For, as has been shown, spirit is capable of motion.

The notion of spirit involves no more difficulty in it than that of body.—Finally, this notion of immaterial spirit may perhaps have some difficulties in it that are not easy to explain. But that gives us no more reason to deny or doubt the existence of such spirits than we have to deny or doubt the existence of body. For the notion of body is also burdened with some difficulties that are very hard

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hard, and perhaps impossible to be explained or understood by us.

For I would fain have instanced any thing in our notion of spirit more perplexed, or nearer a contradiction, than the very notion of body includes in it: the divisibility *in infinitum* of any finite extension involving us, whether we grant or deny it, in consequences impossible to be explicated or made in our apprehensions consistent: consequences that carry greater difficulty, and more apparent absurdity, than any thing that can follow from the notion of an immaterial knowing substance.

2.23.32 *We know nothing beyond our simple ideas.*—Which we are not at all to wonder at, since we having but some few superficial ideas of things, discovered to us only by the senses from without, or by the mind, reflecting on what it experiments in itself within, have no knowledge beyond that, much less of the internal constitution and true nature of things, being destitute of faculties to attain it.

And therefore experimenting and discovering in ourselves knowledge, and the power of voluntary motion, as certainly as we experiment or discover in things without us the cohesion and separation of solid parts, which is the extension and motion of bodies; we have as much reason to be satisfied with our notion of immaterial spirit, as with our notion of body, and the existence of the one as well as the other. For it being no more a contradiction that thinking should exist, separate and independent from solidity, than it is a contradiction that solidity should exist separate and independent from thinking, they being both

but simple ideas, independent one from another, —and having as clear and distinct ideas in us of thinking as of solidity,—I know not why we may not as well allow a thinking thing without solidity, *i. e.* immaterial, to exist, as a solid thing without thinking, *i. e.* matter, to exist; especially since it is not harder to conceive how thinking should exist without matter, than how matter should think. For whensoever we would proceed beyond these simple ideas we have from sensation and reflection, and dive farther into the nature of things, we fall presently into darkness and obscurity, perplexedness and difficulties; and

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for us to explain or understand, and perhaps impossible.

For I would gladly see anyone point to something in our notion of spirit that is more perplexing, or nearer to a contradiction, than what the very notion of body contains. Take the divisibility *in infinitum* of any finite extension. Whether we grant it or deny it, it involves us in consequences that cannot be explained or made consistent in our minds. These consequences carry greater difficulty and more evident absurdity than anything that can follow from the notion of an immaterial knowing substance.

We know nothing beyond our simple ideas.—We should not be at all surprised at this. We have only a few superficial ideas of things. They come to us either from outside, through the senses, or from within, when the mind reflects on what it experiences in itself. We have no knowledge beyond that, and still less knowledge of the internal constitution and true nature of things, since we lack the faculties to attain it.

We experience and discover knowledge and the power of voluntary motion in ourselves as certainly as we experience or discover, in things outside us, the cohesion and separation of solid parts, which is the extension and motion of bodies. So we have as much reason to be satisfied with our notion of immaterial spirit as with our notion of body, and to accept the existence of the one as much as the other. For it is no more a contradiction that thinking should exist separate from and independent of solidity than that solidity should exist separate from and independent of thinking, since they are both

only simple ideas, independent of each other. And we have ideas of thinking as clear and distinct as our ideas of solidity. So I do not see why we should not allow a thinking thing without solidity, that is, something immaterial, to exist, just as we allow a solid thing without thinking, that is, matter, to exist. This is especially so because it is no harder to conceive how thinking should exist without matter than how matter should think. For whenever we try to go beyond the simple ideas we have from sensation and reflection, and dive further into the nature of things, we immediately fall into darkness and obscurity, perplexity and difficulties. We

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can discover nothing farther but our own blindness and ignorance.

But whichever of these complex ideas be clearest, that of body or immaterial spirit, this is evident, that the simple ideas that make them up are no other than what we have received from sensation or reflection; and so is it of all our other ideas of substances, even of God himself.

2.23.33 *Idea of God.*—For if we examine the idea we have of the incomprehensible Supreme Being, we shall find, that we come by it the same way; and that the complex ideas we have both of God and separate spirits, are made up of the simple ideas we receive from reflection; v.

g. having, from what we experiment in ourselves, got the ideas of existence and duration; of knowledge and power; of pleasure and happiness; and of several other qualities and powers, which it is better to have than to be without; when we would frame an idea the most suitable we can to the Supreme Being, we enlarge every one of these with our idea of infinity; and so putting them together, make our complex idea of God. For that the mind has such a power of enlarging some of its ideas, received from sensation and reflection, has been already shown.

2.23.34 If I find that I know some few things, and some of them, or all, perhaps, imperfectly, I can frame an idea of knowing twice as many; which I can double again, as often as I can add to number; and thus enlarge my idea of knowledge, by extending its comprehension to all things existing or possible. The same also I can do of knowing them more perfectly; *i. e.* all their qualities, powers, causes, consequences, and relations, &c. till all be perfectly known that is in them, or can any way relate to them; and thus frame the idea of infinite or boundless knowledge.

The same may also be done of power, till we come to that we call infinite and also of the duration of existence, without beginning or end; and so frame the idea of an eternal being. The degrees or extent wherein we ascribe existence, power, wisdom, and all other perfections (which we can have any ideas of) to that sovereign being which we call God, being all boundless and infinite, we frame the best idea of him our minds are capable

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can discover nothing more than our own blindness and ignorance.

But whichever of these complex ideas is clearer, that of body or that of immaterial spirit, this much is evident. The simple ideas that make them up are nothing other than those we have received from sensation or reflection. And the same is true of all our other ideas of substances, even our idea of God himself.

Idea of God.—For if we examine the idea we have of the incomprehensible Supreme Being, we will find that we come by it in the same way. The complex ideas we have both of God and of separate spirits are made up of the simple ideas we receive from reflection. For example,

from what we experience in ourselves we have got the ideas of existence and duration, of knowledge and power, of pleasure and happiness, and of various other qualities and powers that it is better to have than to lack. When we want to frame the most fitting idea we can of the Supreme Being, we enlarge each of these with our idea of infinity. By putting them together, we make our complex idea of God. That the mind has such a power of enlarging some of its ideas received from sensation and reflection has already been shown.

If I find that I know a few things, and some of them, or perhaps all of them, only imperfectly, I can frame an idea of knowing twice as many. I can double that again, as often as I can add to number, and so enlarge my idea of knowledge by extending its range to all things existing or possible. I can do the same with knowing them more perfectly, that is, knowing all their qualities, powers, causes, consequences, relations, and so on, until everything in them, or in any way related to them, is perfectly known. In this way I frame the idea of infinite or boundless knowledge.

The same can be done with power, until we come to what we call infinite power. It can also be done with the duration of existence, without beginning or end, and so we frame the idea of an eternal being. We ascribe existence, power, wisdom, and all other perfections (of which we can have any ideas) to that sovereign being we call God, and the degrees or extent to which we ascribe them are all boundless and infinite. In this way we frame the

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of: all which is done, I say, by enlarging those simple ideas we have taken from the operations of our own minds by reflection, or by our senses from exterior things, to that vastness to which infinity can extend them.

2.23.35 *Idea of God.*—For it is infinity, which joined to our ideas of existence, power, knowledge, &c. makes that complex idea whereby we represent to ourselves, the best we can, the Supreme Being. For though in his own essence (which certainly we do not know, not knowing the real essence of a pebble, or a fly, or of our own selves) God be simple and uncompounded; yet, I think, I may say we have no other idea of him but a complex one of existence, knowledge, power, happiness, &c.

infinite and eternal; which are all distinct ideas, and some of them, being relative, are again compounded of others; all which being, as has been shown, originally got from sensation and reflection, go to make up the idea or notion we have of God.

2.23.36 *No idea in our complex one of spirits, but those got from sensation or reflection.*—This farther is to be observed, that there is no idea we attribute to God, bating infinity, which is not also a part of our complex idea of other spirits. Because, being capable of no other simple ideas, belonging to any thing but body, but those which by reflection we receive from the operation of our minds, we can attribute to spirits no other but what we receive from thence: and all the difference we can put between them in our contemplation of spirits, is only in the several extents and degrees of their knowledge, power, duration, happiness, &c.

For that in our ideas, as well of spirits as of other things, we are restrained to those we receive from sensation and reflection, is evident from hence, that in our ideas of spirits, how much soever advanced in perfection beyond those of bodies, even to that of infinite, we cannot yet have any idea of the manner wherein they discover their thoughts one to another: though we must necessarily conclude, that separate spirits, which are beings that have perfecter knowledge and greater happiness than we, must needs have also a perfecter way of communicating their thoughts

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best idea of him our minds are capable of. All this is done, I say, by enlarging the simple ideas we have taken from the operations of our own minds by reflection, or from external things by our senses, to that vastness to which infinity can extend them.

Idea of God.—For it is infinity, joined to our ideas of existence, power, knowledge, and so on, that makes the complex idea by which we represent the Supreme Being to ourselves as best we can. In his own essence God is simple and uncompounded, though we certainly do not know that essence, since we do not know the real essence of a pebble, or a fly, or of our own selves. Still, I think I may say that we have no idea of him except a complex one of existence, knowledge, power, happiness, and so on,

infinite and eternal. These are all distinct ideas, and some of them, being relative, are in turn compounded of others. All of them, as has been shown, were originally got from sensation and reflection, and they go to make up the idea or notion we have of God.

No ideas in our complex idea of spirits except those got from sensation or reflection.—It should further be observed that there is no idea we attribute to God, apart from infinity, which is not also part of our complex idea of other spirits. The only simple ideas we can have of anything other than body are those we receive by reflection from the operation of our own minds. So we can attribute to spirits nothing but what we receive from there. And when we contemplate spirits, all the difference we can make between them lies only in the various extents and degrees of their knowledge, power, duration, happiness, and so on.

In our ideas of spirits, as in our ideas of other things, we are limited to those we receive from sensation and reflection. This is evident from the following. However far we advance our ideas of spirits in perfection beyond those of bodies, even to the point of infinity, we still cannot have any idea of the way spirits reveal their thoughts to one another. Yet we must necessarily conclude that separate spirits have a more perfect way of communicating their thoughts than we have, since they are beings with more perfect knowledge and greater happiness than ours. We are obliged to use

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than we have, who are fain to make use of corporeal signs and particular sounds; which are therefore of most general use, as being the best and quickest we are capable of.

But of immediate communication, having no experiment in ourselves, and consequently no notion of it at all, we have no idea how spirits, which use not words, can with quickness, or much less how spirits that have no bodies, can be masters of their own thoughts, and communicate or conceal them at pleasure, though we cannot but necessarily suppose they have such a power.

2.23.37 *Recapitulation.*—And thus we have seen what kind of ideas we have of substances of all kinds, wherein they consist, and how we came by them. From whence, I think, it is very evident,

First, that all our ideas of the several sorts of substances are nothing but collections of simple ideas, with a supposition of something to which they belong, and in which they subsist; though of this supposed something we have no clear distinct idea at all.

Secondly, that all the simple ideas, that thus united in one common substratum make up our complex ideas of several sorts of substances, are no other but such as we have received from sensation or reflection. So that even in those which we think we are most intimately acquainted with, and that come nearest the comprehension of our most enlarged conceptions, we cannot go beyond those simple ideas.

And even in those which seem most remote from all we have to do with, and do infinitely surpass any thing we can perceive in ourselves by reflection, or discover by sensation in other things, we can attain to nothing but those simple ideas, which we originally received from sensation and reflection; as is evident in the complex ideas we have of angels, and particularly of God himself.

Thirdly, that most of the simple ideas that make up our complex ideas of substances, when truly considered, are only powers, however we are apt to take them for positive qualities; *v. g.* the greatest part of the ideas that make our complex idea of gold are yellowness, great weight,

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bodily signs and particular sounds, which are therefore the most widely used, as being the best and quickest we are capable of.

But we have no experience in ourselves of immediate communication, and consequently no notion of it at all. So we have no idea how spirits that do not use words can be masters of their own thoughts with such speed, and still less how spirits that have no bodies can be masters of them and communicate or conceal them at will. Yet we cannot help supposing that they have such a power.

Recapitulation.—So we have seen what kind of ideas we have of substances of all kinds, what those ideas consist in, and how we came by them. From this, I think, it is very evident:

First, that all our ideas of the various sorts of substances are nothing but collections of simple ideas, together with the supposition of something to which they belong and in which they subsist. Of this supposed something, however, we have no clear, distinct idea at all.

Second, that all the simple ideas which are united in this way in one common substratum, and make up our complex ideas of the various sorts of substances, are no other than those we have received from sensation or reflection. Consider the substances we think we are most intimately acquainted with, and that come closest to the grasp of our most expansive conceptions. Even in these we cannot go beyond those simple ideas.

Then consider the substances that seem most remote from anything we deal with, and that infinitely surpass anything we can perceive in ourselves by reflection or discover in other things by sensation. Even in these we can arrive at nothing but the simple ideas we originally received from sensation and reflection. This is evident in the complex ideas we have of angels, and particularly of God himself.

Third, that most of the simple ideas that make up our complex ideas of substances, when rightly considered, are only powers, however much we are inclined to take them for positive qualities. For example, most of the ideas that make up our complex idea of gold are yellowness, great weight,

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ductility, fusibility, and solubility in *aqua regia*, &c. all united together in an unknown substratum; all which ideas are nothing else but so many relations to other substances, and are not really in the gold, considered barely in itself, though they depend on those real and primary qualities of its internal constitution, whereby it has a fitness differently to operate, and be operated on by several other substances.

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ductility, fusibility, solubility in *aqua regia*, and so on, all united together in an unknown substratum. All these ideas are nothing but so many relations to other substances. They are not really in the gold considered simply in itself, though they depend on the real and primary qualities of its internal constitution. It is those qualities that fit gold to act in different ways on various other substances, and to be acted on by them.

COLLECTIVE IDEAS OF SUBSTANCES

The mind joins many substances, like an army or the universe, into one idea.

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2.24.1 *One idea.*—Besides these complex ideas of several single substances, as of man, horse, gold, violet, apple, &c. the mind hath also complex collective ideas of substances; which I so call, because such ideas are made up of many particular substances considered together, as united into one idea, and which so joined are looked on as one: v.

g. the idea of such a collection of men as make an army, though consisting of a great number of distinct substances, is as much one idea as the idea of a man: and the great collective idea of all bodies whatsoever, signified by the name world, is as much one idea as the idea of any the least particle of matter in it; it sufficing to the unity of any idea that it be considered as one representation or picture, though made up of ever so many particulars.

2.24.2 *Made by the power of composing in the mind.*—These collective ideas of substances the mind makes by its power of composition, and uniting severally either simple or complex ideas into one, as it does by the same faculty make the complex ideas of particular substances, consisting of an aggregate of divers simple ideas, united in one substance; and as the mind, by putting together the repeated ideas of unity, makes the collective mode, or complex idea of any number, as a score, or a gross, &c.

so by putting together several particular substances, it makes collective ideas of substances, as a troop, an army, a swarm, a city, a fleet; each of which, every one finds, that he represents to his own mind by one idea, in one

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One idea.—Besides these complex ideas of single substances, such as man, horse, gold, violet, apple, and so on, the mind also has complex collective ideas of substances. I call them collective because such ideas are made up of many particular substances considered together and united into one idea, and once joined in this way they are regarded as one. For example,

the idea of a collection of men such as makes up an army consists of a great number of distinct substances, yet it is as much one idea as the idea of a man. And the great collective idea of all bodies whatever, signified by the name "world," is as much one idea as the idea of the smallest particle of matter in it. For it is enough for the unity of any idea that it be considered as one representation or picture, however many particulars it is made up of.

Made by the mind's power of composing.—The mind makes these collective ideas of substances by its power of composition, uniting a number of simple or complex ideas into one. By the same faculty it makes the complex ideas of particular substances, which consist of an aggregate of various simple ideas united in one substance. And just as the mind, by putting together repeated ideas of unity, makes the collective mode, or complex idea, of any number, such as a score or a gross,

so by putting together several particular substances it makes collective ideas of substances, such as a troop, an army, a swarm, a city, a fleet. Everyone finds that he represents each of these to his own mind by one idea, in one view. Under that

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view; and so under that notion considers those several things as perfectly one, as one ship, or one atom.

Nor is it harder to conceive how an army of ten thousand men should make one idea, than how a man should make one idea: it being as easy to the mind to unite into one the idea of a great number of men, and consider it as one, as it is to unite into one particular all the distinct ideas that make up the composition of a man, and consider them all together as one.

2.24.3 *All artificial things are collective ideas.*—Among such kind of collective ideas are to be counted most part of artificial things, at least such of them as are made up of distinct substances: and in truth, if we consider all these collective ideas aright, as army, constellation, universe, as they are united into so many single ideas, they are but the artificial draughts of the mind; bringing things very remote, and independent on one another, into one view, the better to contemplate and discourse of them, united into one conception, and signified by one name.

For there are no things so remote, nor so contrary, which the mind cannot, by this art of composition, bring into one idea; as is visible in that signified by the name universe.

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notion he considers those several things as perfectly one, like one ship or one atom.

Nor is it harder to conceive how an army of ten thousand men should make one idea than how a man should make one idea. The mind can unite the idea of a great number of men into one and consider it as one. That is just as easy as uniting into one particular all the distinct ideas that make up a man and considering them all together as one.

All artificial things are collective ideas.—Most artificial things are to be counted among collective ideas of this kind, at least those made up of distinct substances. And in truth, consider all these collective ideas rightly, such as army, constellation, universe, as they are united into so many single ideas. They are only the artificial sketches of the mind. The mind brings things that are very remote and independent of one another into one view, united into one conception and signified by one name, the better to contemplate and talk about them.

For there are no things so remote or so contrary that the mind cannot bring them into one idea by this art of composition. This is plain in the idea signified by the name "universe."

RELATION

Locke explains how comparing things gives ideas of relation, and that all relations end in simple ideas.

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2.25.1 *Relation, what.*—Besides the ideas, whether simple or complex, that the mind has of things, as they are in themselves, there are others it gets from their comparison one with another. The understanding, in the consideration of any thing, is not confined to that precise object: it can carry any idea as it were beyond itself, or at least look beyond it, to see how it stands in conformity to any other.

When the mind so considers one thing, that it does as it were bring it to and set it by another, and carry its view from one to the other: this is, as the words import, relation and respect; and the denominations given to positive things, intimating that respect, and serving as marks to lead the thoughts beyond the subject itself

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What relation is.—Besides the ideas, simple or complex, that the mind has of things as they are in themselves, there are others it gets from comparing them with one another. When the understanding considers anything, it is not confined to that precise object. It can carry any idea, as it were, beyond itself, or at least look beyond it, to see how it stands in conformity with any other.

Sometimes the mind considers one thing in such a way that it brings it, as it were, to another, sets it beside that other, and carries its view from one to the other. This is, as the words indicate, relation and respect. Some names given to positive things indicate that respect, and serve as marks that lead the thoughts beyond the subject named to some-

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denominated to something distinct from it, are what we call relatives; and the things, so brought together, related. Thus, when the mind considers Caius as such a positive being, it takes nothing into that idea but what really exists in Caius; *v. g.* when I consider him as a man, I have nothing in my mind but the complex idea of the species, man.

So likewise, when I say Caius is a white man, I have nothing but the bare consideration of a man who hath that white colour. But when I give Caius the name husband, I intimate some other person; and when I give him the name whiter, I intimate some other thing: in both cases my thought is led to something beyond Caius, and there are two things brought into consideration. And since any idea, whether simple or complex, may be the occasion why the mind thus brings two things together, and as it were takes a view of them at once, though still considered as distinct; therefore any of our ideas may be the foundation of relation.

As in the above-mentioned instance, the contract and ceremony of marriage with Sempronia is the occasion of the denomination or relation of husband; and the colour white the occasion why he is said to be whiter than freestone.

2.25.2 *Relations without correlative terms not easily perceived.*—These, and the like relations, expressed by relative terms, that have others answering them, with a reciprocal intimation, as father and son, bigger and less, cause and effect, are very obvious to every one, and every body at first sight perceives the relation. For father and son, husband and wife, and such other correlative terms, seem so nearly to belong one to another and through custom do so readily chime and answer one another in people's memories, that, upon the naming of either of them, the thoughts are presently carried beyond the thing so named; and nobody overlooks or doubts of relation, where it is so plainly intimated.

But where languages have failed to give correlative names, there the relation is not always so easily taken notice of. Concubine is, no doubt, a relative name, as well as wife; but in languages where this and the like words, have not a

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thing distinct from it. These names are what we call relatives, and the things brought together in this way we call related. Thus, when the mind considers Caius as a positive being of a certain kind, it takes nothing into that idea except what really exists in Caius. For example, when I consider him as a man, I have nothing in my mind but the complex idea of the species man.[11]

Likewise, when I say Caius is a white man, I have nothing in mind but the bare consideration of a man who has that white color. But when I give Caius the name "husband," I point to some other person, and when I give him the name "whiter," I point to some other thing. In both cases my thought is led to something beyond Caius, and two things are brought into consideration. Any idea, simple or complex, may be the occasion for the mind to bring two things together in this way and, as it were, view them at once while still considering them distinct. So any of our ideas may be the foundation of relation.

In the example just mentioned, the contract and ceremony of marriage with Sempronia is the occasion of the name or relation "husband." The color white is the occasion for saying that he is whiter than freestone.

Relations without correlative terms not easily perceived.—Some relations are expressed by relative terms that have other terms answering to them, each pointing to the other, like father and son, bigger and smaller, cause and effect. These and similar relations are very obvious to everyone, and everybody perceives the relation at first sight. For father and son, husband and wife, and other such correlative terms seem to belong so closely to one another, and through custom chime and answer one another so readily in people's memories, that when either of them is named, the thoughts are immediately carried beyond the thing named. Nobody overlooks or doubts a relation where it is so plainly indicated.

But where languages have failed to provide correlative names, the relation is not always so easily noticed. "Concubine" is no doubt a relative name, just as "wife" is. But in languages where this word and similar words have no correlative term,

11 Caius and Sempronia are stock names for a man and a woman in Roman legal examples.

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correlative term, there people are not so apt to take them to be so, as wanting that evident mark of relation which is between correlatives, which seem to explain one another, and not to be able to exist but together. Hence it is, that many of those names which, duly considered, do include evident relations, have been called external denominations.

But all names, that are more than empty sounds, must signify some idea, which is either in the thing to which the name is applied—and then it is positive, and is looked on as united to, and existing in, the thing to which the denomination is given—or else it arises from the respect the mind finds in it to something distinct from it, with which it considers it; and then it concludes a relation.

2.25.3 *Some seemingly absolute terms contain relations.*—Another sort of relative terms there is which are not looked on to be either relative, or so much as external denominations; which yet, under the form and appearance of signifying something absolute in the subject, do conceal a tacit, though less observable, relation. Such are the seemingly positive terms of old, great, imperfect, &c. whereof I shall have occasion to speak more at large in the following chapters.

2.25.4 *Relation different from the things related.*—This farther may be observed, that the ideas of relation may be the same in men, who have far different ideas of the things that are related, or that are thus compared; *v. g.* those who have far different ideas of a man, may yet agree in the notion of a father; which is a notion superinduced to the substance, or man, and refers only to an act of that thing called man, whereby he contributes to the generation of one of his own kind, let man be what it will.

2.25.5 *Change of relation may be without any change in the subject.*—The nature therefore of relation consists in the referring or comparing two things one to another; from which comparison one or both comes to be denominated. And if either of those things be removed, or cease to be, the relation ceases, and the denomination consequent to it, though the other receive in itself no alteration at

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people are not so apt to take them to be relative. Such words lack the evident mark of relation found between correlatives, which seem to explain one another and seem unable to exist except together. This is why many names that include evident relations, when properly considered, have been called external denominations.[12]

But all names that are more than empty sounds must signify some idea. Sometimes that idea is in the thing to which the name is applied. Then it is positive, and is regarded as united to and existing in the thing so named. At other times it arises from a respect the mind finds between the thing and something distinct from it, with which the mind considers it. Then the name includes a relation.

Some seemingly absolute terms contain relations.—There is another sort of relative terms which are not regarded as relative, or even as external denominations. Yet under the form and appearance of signifying something absolute in the subject, they conceal a tacit, though less noticeable, relation. Such are the seemingly positive terms "old," "great," "imperfect," and so on, of which I shall have occasion to speak more fully in the following chapters.

Relation different from the things related.—It may further be observed that the ideas of relation may be the same in men who have very different ideas of the things that are related or compared in this way. For example, those who have very different ideas of a man may still agree in the notion of a father. This notion is added on to the substance, or man. It refers only to an act of the thing called man by which he contributes to the generation of one of his own kind, whatever man may be.

Change of relation may be without any change in the subject.—The nature of relation, therefore, consists in referring or comparing two things to one another, and from this comparison one or both come to be named. If either of those things is removed or ceases to be, the relation ceases, and so does the name that follows from it, even though the other thing undergoes no alteration at all in itself. For

12 "External denomination" is a scholastic term for a name given to a thing on account of something outside it.

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all; *v. g.* Caius, whom I consider to-day as a father, ceases to be so to-morrow, only by the death of his son, without any alteration made in himself. Nay, barely by the mind's changing the object to which it compares any thing, the same thing is capable of having contrary denominations at the same time: v.

g. Caius, compared to several persons, may truly be said to be older and younger, stronger and weaker, &c.

2.25.6 *Relation only betwixt two things.*—Whatsoever doth or can exist, or be considered as one thing, is positive; and so not only simple ideas and substances, but modes also, are positive beings; though the parts of which they consist are very often relative one to another; but the whole together considered as one thing, and producing in us the complex idea of one thing, which idea is in our minds as one picture, though an aggregate of divers parts, and under one name, it is a positive or absolute thing or idea. Thus a triangle, though the parts thereof, compared one to another, be relative, yet the idea of the whole is a positive absolute idea.

The same may be said of a family, a tune, &c. for there can be no relation but betwixt two things considered as two things. There must always be in relation two ideas, or things, either in themselves really separate, or considered as distinct, and then a ground or occasion for their comparison.

2.25.7 *All things capable of relation.*—Concerning relation in general, these things may be considered: First, that there is no one thing whether simple idea, substance, mode, or relation, or name of either of them, which is not capable of almost an infinite number of considerations, in reference to other things; and therefore this makes no small part of men's thoughts and words: *v. g.* one single man may at once be concerned in, and sustain all these following relations, and many more, viz. father, brother, son, grandfather, grandson, father-in-law, son-in-law, husband, friend, enemy, subject, general, judge, patron, client, professor, European, Englishman, islander, servant, master, possessor, captain, superior, inferior, bigger, less, older, younger, contemporary, like, unlike, &c.

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example, today I consider Caius as a father. Tomorrow he ceases to be one simply through the death of his son, without any alteration in himself. Indeed, the same thing can have contrary names at the same time merely because the mind changes the object to which it compares it. For example,

Caius, compared with different persons, may truly be said to be older and younger, stronger and weaker, and so on.

Relation only between two things.—Whatever does or can exist, or be considered as one thing, is positive. So not only simple ideas and substances but modes too are positive beings, though the parts they consist of are very often relative to one another. The whole, considered together as one thing, produces in us the complex idea of one thing. That idea is in our minds as one picture, though it is an aggregate of various parts, and it goes under one name. Taken this way, the whole is a positive or absolute thing or idea. Thus the parts of a triangle are relative when compared with one another, yet the idea of the whole triangle is a positive, absolute idea.

The same may be said of a family, a tune, and so on. For there can be no relation except between two things considered as two things. In relation there must always be two ideas or things, either really separate in themselves or considered as distinct, and then a ground or occasion for comparing them.

All things capable of relation.—Concerning relation in general, the following points may be considered. First, there is no single thing that is not capable of an almost infinite number of considerations with reference to other things, whether it is a simple idea, substance, mode, or relation, or the name of any of them. This therefore makes up no small part of men’s thoughts and words. For example, one single man may at once be involved in and sustain all the following relations, and many more: father, brother, son, grandfather, grandson, father-in-law, son-in-law, husband, friend, enemy, subject, general, judge, patron, client, professor, European, Englishman, islander, servant, master, owner, captain, superior, inferior, bigger, smaller, older, younger, contemporary, like, unlike, and so on,

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to an almost infinite number: he being capable of as many relations as there can be occasions of comparing him to other things, in any manner of agreement, disagreement, or respect whatsoever. For, as I said, relation is a way of comparing or considering two things together, and giving one or both of them some appellation from that comparison; and sometimes giving even the relation itself a name.

2.25.8 *The ideas of relations clearer often than of the subjects related.*—Secondly, this farther may be considered concerning relation, that though it be not contained in the real existence of things, but something extraneous and superinduced; yet the ideas which relative words stand for, are often clearer and more distinct than of those substances to which they do belong.

The notion we have of a father, or brother, is a great deal clearer and more distinct than that we have of a man; or, if you will, paternity is a thing whereof it is easier to have a clearer idea than of humanity: and I can much easier conceive what a friend is, than what God: because the knowledge of one action, or one simple idea, is oftentimes sufficient to give me the notion of a relation: but to the knowing of any substantial being, an accurate collection of sundry ideas is necessary.

A man, if he compares two things together, can hardly be supposed not to know what it is wherein he compares them: so that when he compares any things together, he cannot but have a very clear idea of that relation. The ideas then of relations are capable at least of being more perfect and distinct in our minds than those of substances. Because it is commonly hard to know all the simple ideas which are really in any substance, but for the most part easy enough to know the simple ideas that make up any relation I think on, or have a name for; v.

g. comparing two men, in reference to one common parent, it is very easy to frame the ideas of brothers, without having yet the perfect idea of a man. For significant relative words, as well as others, standing only for ideas, and those being all either simple, or made up of simple ones, it suffices for the knowing the precise idea the relative term stands for, to have a clear conception of that which is the foundation of the relation; which may be done without having a

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to an almost infinite number. For he is capable of as many relations as there can be occasions for comparing him to other things, in any kind of agreement, disagreement, or respect whatever. As I said, relation is a way of comparing or considering two things together and giving one or both of them some name from that comparison. Sometimes the relation itself is given a name as well.

The ideas of relations are often clearer than those of the subjects related.—Second, it may further be considered concerning relation that it is not contained in the real existence of things, but is something extraneous and added on. Even so, the ideas that relative words stand for are often clearer and more distinct than the ideas of the substances to which they belong.

The notion we have of a father or a brother is a great deal clearer and more distinct than the one we have of a man. Or, if you like, it is easier to have a clear idea of paternity than of humanity. And I can conceive what a friend is much more easily than what God is. For the knowledge of one action, or one simple idea, is often enough to give me the notion of a relation. To know any substantial being, however, an accurate collection of various ideas is needed.

A man who compares two things can hardly be supposed not to know in what respect he is comparing them. So when he compares any things, he cannot help having a very clear idea of that relation. The ideas of relations, then, are at least capable of being more perfect and distinct in our minds than those of substances. It is commonly hard to know all the simple ideas that are really in any substance. But it is usually easy enough to know the simple ideas that make up any relation I think of or have a name for. For example,

if we compare two men with reference to one common parent, it is very easy to frame the idea of brothers without yet having a perfect idea of a man. Meaningful relative words, like others, stand only for ideas, and these are all either simple or made up of simple ones. So to know the precise idea a relative term stands for, it is enough to have a clear conception of the foundation of the relation. And this can be done without having a per-

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perfect and clear idea of the thing it is attributed to.

Thus having the notion, that one laid the egg out of which the other was hatched, I have a clear idea of the relation of dam and chick, between the two cassiowaries in St James's Park; though perhaps I have but a very obscure and imperfect idea of those birds themselves.

2.25.9 *Relations all terminate in simple ideas.*—Thirdly, though there be a great number of considerations, wherein things may be compared one with another, and so a multitude of relations; yet they all terminate in, and are concerned about, those simple ideas, either of sensation or reflection which I think to be the whole materials of all our knowledge. To clear this, I shall show it in the most considerable relations that we have any notion of, in some that seem to be the most remote from sense or reflection; which yet will appear to have their ideas from thence, and leave it past doubt, that the notions we have of them are but certain simple ideas, and so originally derived from sense or reflection.

2.25.10 *Terms leading the mind beyond the subject denominated, are relative.*—Fourthly, that relation being the considering of one thing with another, which is extrinsical to it, it is evident, that all words that necessarily lead the mind to any other ideas than are supposed really to exist in that thing, to which the words are applied, are relative words: *v. g.* a man black, merry, thoughtful, thirsty, angry, extended; these, and the like, are all absolute, because they neither signify nor intimate any thing but what does or is supposed really to exist in the man thus denominated but father, brother, king, husband, blacker, merrier, &c.

are words which, together with the thing they denominate, imply also something else separate and exterior to the existence of that thing.

2.25.11 *Conclusion.*—Having laid down these premises concerning relation in general, I shall now proceed to show, in some instances, how all the ideas we have of relation are made up, as the others are, only of simple ideas; and that they all,

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fect and clear idea of the thing the relation is attributed to.

Thus, having the notion that one laid the egg out of which the other was hatched, I have a clear idea of the relation of dam and chick between the two cassowaries in St. James's Park. Yet perhaps I have only a very obscure and imperfect idea of those birds themselves.[13]

Relations all terminate in simple ideas.—Third, there are a great many respects in which things may be compared with one another, and so a multitude of relations. Yet they all terminate in, and are concerned with, those simple ideas of sensation or reflection which I take to be the whole materials of all our knowledge. To make this clear, I shall show it in the most important relations we have any notion of, including some that seem most remote from sense or reflection. These too will turn out to have their ideas from sense or reflection. That will leave it beyond doubt that the notions we have of them are only certain simple ideas, and so originally derived from sense or reflection.

Terms leading the mind beyond the subject named are relative.—Fourth, relation is the considering of one thing together with another that is external to it. So it is evident that relative words are all those that necessarily lead the mind to ideas other than those supposed really to exist in the thing to which the words are applied. For example, a man black, merry, thoughtful, thirsty, angry, extended: these and similar terms are all absolute. They neither signify nor indicate anything except what does exist, or is supposed really to exist, in the man so named. But father, brother, king, husband, blacker, merrier, and so on,

are words that, together with the thing they name, also imply something else separate from and external to the existence of that thing.

Conclusion.—I have now laid down these premises about relation in general. Next I shall show, in some instances, how all the ideas we have of relation are made up, like the others, only of simple ideas. All of them, however refined or remote

13 Cassowaries, large flightless birds of New Guinea and Australia, were among the exotic animals kept in the royal collection in St. James's Park, London.

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how refined or remote from sense soever they seem, terminate at last in simple ideas. I shall begin with the most comprehensive relation, wherein all things that do or can exist are concerned; and that is the relation of cause and effect. The idea whereof, how derived from the two fountains of all our knowledge, sensation and reflection, I shall in the next place consider.

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from sense they seem, terminate at last in simple ideas. I shall begin with the most comprehensive relation, which involves all things that do or can exist: the relation of cause and effect. I shall now consider how the idea of it is derived from the two sources of all our knowledge, sensation and reflection.

CAUSE AND EFFECT

Locke derives cause and effect, creation, generation and alteration, and relations of time and place from experience.

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2.26.1 *Whence their ideas got.*—In the notice that our senses take of the constant vicissitudes of things, we cannot but observe, that several particular, both qualities and substances, begin to exist; and that they receive this their existence from the due application and operation of some other being. From this observation we get our ideas of cause and effect. That which produces any simple or complex idea we denote by the general name cause; and that which is produced, effect.

Thus, finding, that in that substance which we call wax, fluidity, which is a simple idea that was not in it before, is constantly produced by the application of a certain degree of heat; we call the simple idea of heat, in relation to fluidity in wax, the cause of it, and fluidity the effect. So also finding that the substance of wood, which is a certain collection of simple ideas so called, by the application of fire is turned into another substance called ashes, *i. e.* another complex idea, consisting of a collection of simple ideas, quite different from that complex idea which we call wood; we consider fire, in relation to ashes, as cause, and the ashes as effect.

So that whatever is considered by us to conduce or operate to the producing any particular simple idea, or collection of simple ideas, whether substance or mode, which did not before exist, hath thereby in our minds the relation of a cause, and so is denominated by us.

2.26.2 *Creation, generation, making, alteration.*—Having thus, from what our senses are able to discover, in the operations of bodies on one another, got the notion of cause and effect, viz. that a cause is that which makes any other thing, either simple idea, substance or mode, begin to be; and an effect is

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Where these ideas come from.—Our senses take notice of the constant changes of things, and in doing so we cannot help observing that various particular qualities and substances begin to exist. We also observe that they receive their existence from the proper application and operation of some other being. From this observation we get our ideas of cause and effect. What produces any simple or complex idea we denote by the general name "cause," and what is produced we call "effect."

Thus, we find that in the substance we call wax, fluidity is constantly produced by the application of a certain degree of heat. Fluidity is a simple idea that was not in the wax before. So we call the simple idea of heat, in relation to fluidity in wax, its cause, and fluidity the effect. Likewise, we find that the substance wood, which is a certain collection of simple ideas going by that name, is turned by the application of fire into another substance called ashes. Ashes are another complex idea, consisting of a collection of simple ideas quite different from the complex idea we call wood. So we consider fire, in relation to ashes, as cause, and the ashes as effect.

So whatever we consider as contributing or operating to produce any particular simple idea, or collection of simple ideas, whether substance or mode, that did not exist before, thereby has in our minds the relation of a cause, and we name it so.

Creation, generation, making, alteration.—We have thus got the notion of cause and effect from what our senses can discover in the operations of bodies on one another. Namely, a cause is what makes any other thing begin to be, whether simple idea,

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that which had its beginning from some other thing, the mind finds no great difficulty to distinguish the several originals of things into two sorts.

First, when the thing is wholly new, so that no part thereof did ever exist before; as when a new particle of matter doth begin to exist, in *rerum natura*, which had before no being, and this we call creation.

Secondly, when a thing is made up of particles, which did all of them before exist, but that very thing so constituted of pre-existing particles, which considered all together make up such a collection of simple ideas as had not any existence before; as this man, this egg, rose, or cherry, &c. And this, when referred to a substance, produced in the ordinary course of nature, by an internal principle, but set on work by, and received from some external agent or cause, and working by insensible ways, which we perceive not, we call generation: when the cause is extrinsical, and the effect produced by a sensible separation, or juxtaposition of discernible parts, we call it making; and such are all artificial things.

When any simple idea is produced which was not in that subject before, we call it alteration. Thus a man is generated, a picture made, and either of them altered, when any new sensible quality or simple idea is produced in either of them, which was not there before; and the things thus made to exist, which were not there before, are effects; and those things which operated to the existence, causes. In which, and all other cases, we may observe, that the notion of cause and effect has its rise from ideas, received by sensation or reflection; and that this relation, how comprehensive soever, terminates at last in them.

For to have the idea of cause and effect, it suffices to consider any simple idea, or substance, as beginning to exist by the operation of some other, without knowing the manner of that operation.

2.26.3 *Relations of time.*—Time and place are also the foundations of very large relations, and all finite beings at least are concerned in them. But having already shown, in another place, how we get these ideas, it may suffice here to intimate, that

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substance, or mode, and an effect is what had its beginning from some other thing. With this notion, the mind finds no great difficulty in dividing the various origins of things into two sorts.

First, when the thing is wholly new, so that no part of it ever existed before, as when a new particle of matter, which previously had no being, begins to exist in the world of nature. This we call creation.

Second, when a thing is made up of particles that all existed before, but the thing itself is new. It is constituted of pre-existing particles which, considered all together, make up a collection of simple ideas that had no existence before, as this man, this egg, rose, or cherry, and so on. Sometimes this refers to a substance produced in the ordinary course of nature by an internal principle, which is set to work by some external agent or cause and received from it, and which works in insensible ways, which we do not perceive. This we call generation. When the cause is external, and the effect is produced by a perceptible separation or juxtaposition of discernible parts, we call it making. All artificial things are of this kind.

When any simple idea is produced that was not in the subject before, we call it alteration. Thus a man is generated and a picture made, and either of them is altered when any new perceptible quality or simple idea is produced in it that was not there before. The things thus made to exist, which were not there before, are effects, and the things that operated to bring them into existence are causes. In this and all other cases we may observe that the notion of cause and effect arises from ideas received by sensation or reflection. However comprehensive this relation is, it terminates at last in them.

For to have the idea of cause and effect, it is enough to consider any simple idea or substance as beginning to exist through the operation of some other, without knowing the manner of that operation.

Relations of time.—Time and place are also the foundations of very extensive relations, and all finite beings at least are involved in them. I have already shown elsewhere how we get these ideas, so it may be enough here to point out that most of

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most of the denominations of things received from time, are only relations. Thus, when any one says that queen Elizabeth lived sixty-nine, and reigned forty-five years, these words import only the relation of that duration to some other, and mean no more than this, that the duration of her existence was equal to sixty-nine, and the duration of her government to forty-five annual revolutions of the sun; and so are all words, answering, how long.

Again, William the Conqueror invaded England about the year 1066, which means this, that taking the duration from our Saviour's time till now, for one entire great length of time, it shows at what distance this invasion was from the two extremes; and so do all words of time, answering to the question, when, which show only the distance of any point of time from the period of a longer duration, from which we measure, and to which we thereby consider it as related.

2.26.4 There are yet, besides those, other words of time, that ordinarily are thought to stand for positive ideas, which yet will, when considered, be found to be relative, such as are young, old, &c. which include and intimate the relation any thing has to a certain length of duration whereof we have the idea in our minds.

Thus having settled in our thoughts the idea of the ordinary duration of a man to be seventy years, when we say a man is young, we mean that his age is yet but a small part of that which usually men attain to: and when we denominate him old, we mean that his duration is run out almost to the end of that which men do not usually exceed.

And so it is but comparing the particular age, or duration of this or that man, to the idea of that duration which we have in our minds, as ordinarily belonging to that sort of animals; which is plain, in the application of these names to other things; for a man is called young at twenty, and very young at seven years old: but yet a horse we call old at twenty, and a dog at seven years; because in each of these we compare their age to different ideas of duration, which are settled in our minds, as belonging to these several sorts of animals, in the ordinary course of nature.

But the sun and stars, though they have outlasted several generations of men, we call not old,

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the names things receive from time are only relations. Suppose someone says that Queen Elizabeth lived sixty-nine years and reigned forty-five. These words convey only the relation of that duration to some other. They mean no more than that the duration of her existence was equal to sixty-nine annual revolutions of the sun, and the duration of her reign to forty-five. The same holds for all words answering the question "how long?"

Again, "William the Conqueror invaded England about the year 1066" means this: take the duration from our Savior's time until now as one entire great length of time, and the date shows how far this invasion was from the two ends of it. And so do all words of time answering the question "when?" They show only the distance of some point of time from the period of a longer duration from which we measure, and to which we therefore consider it related.

Besides these, there are yet other words of time that are ordinarily thought to stand for positive ideas. When considered, they will be found to be relative. Such are "young," "old," and so on, which include and indicate the relation something has to a certain length of duration of which we have the idea in our minds.

Thus, suppose we have settled in our thoughts the idea that the ordinary duration of a man is seventy years. When we say a man is young, we mean that his age is still only a small part of what men usually reach. When we call him old, we mean that his duration has run out almost to the end of what men do not usually exceed.

So it is only a matter of comparing the particular age, or duration, of this or that man with the idea of duration we have in our minds as ordinarily belonging to that sort of animal. This is plain from the way these names are applied to other things. A man is called young at twenty, and very young at seven. Yet we call a horse old at twenty, and a dog at seven. In each case we compare their age with different ideas of duration, settled in our minds as belonging to these different sorts of animals in the ordinary course of nature.

But we do not call the sun and stars old, though they have outlasted many generations of men, be-

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because we do not know what period God hath set to that sort of beings. This term belonging properly to those things which we can observe in the ordinary course of things, by a natural decay, to come to an end in a certain period of time; and so have in our minds, as it were, a standard to which we can compare the several parts of their duration; and, by the relation they bear thereunto, call them young or old; which we cannot therefore do to a ruby or diamond, things whose usual periods we know not.

2.26.5 *Relations of place and extension.*—The relation also that things have to one another in their places and distances, is very obvious to observe; as above, below, a mile distant from Charing-cross, in England, and in London. But as in duration, so in extension and bulk, there are some ideas that are relative, which we signify by names that are thought positive; as great and little are truly relations. For here also having, by observation, settled in our minds the ideas of the bigness of several species of things from those we have been most accustomed to, we make them as it were the standards whereby to denominate the bulk of others.

Thus we call a great apple, such a one as is bigger than the ordinary sort of those we have been used to: and a little horse, such a one as comes not up to the size of that idea which we have in our minds to belong ordinarily to horses; and that will be a great horse to a Welchman which is but a little one to a Fleming; they two having, from the different breed of their countries, taken several sized ideas to which they compare, and in relation to which they denominate, their great and their little.

2.26.6 *Absolute terms often stand for relations.*—So likewise weak and strong are but relative denominations of power, compared to some ideas we have at that time of greater or less power. Thus when we say a weak man, we mean one that has not so much strength or power to move, as usually men have, or usually those of his size have: which is a comparing his strength to the idea we have of the usual strength of men, or men of such a size. The like, when we say the creatures are all weak things; weak, there, is but a relative term,

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cause we do not know what period God has set for that sort of being. This term properly belongs to things that we can observe coming to an end, in the ordinary course of things, through natural decay within a certain period of time. For such things we have in our minds, as it were, a standard with which we can compare the various parts of their duration, and by the relation they bear to it we call them young or old. We therefore cannot do this with a ruby or a diamond, things whose usual lifespans we do not know.

Relations of place and extension.—The relation things have to one another in their places and distances is also very easy to observe, as in above, below, a mile from Charing Cross, in England, and in London. But as with duration, so with extension and bulk, there are some relative ideas which we signify by names thought to be positive. “Great” and “little,” for instance, are really relations. Here too we have settled in our minds, by observation, ideas of the size of various species of things, taken from the ones we have been most used to. We then make these ideas, as it were, the standards by which to name the bulk of others.[14]

Thus we call an apple great if it is bigger than the ordinary sort we have been used to. We call a horse little if it does not come up to the size of the idea we have in our minds as ordinarily belonging to horses. And a horse that is a great one to a Welshman is only a little one to a Fleming. From the different breeds of their countries, the two of them have taken ideas of different sizes, and they compare with these ideas, and name their great and their little in relation to them.

Absolute terms often stand for relations.—Likewise “weak” and “strong” are only relative names of power, compared with some ideas we have at the time of greater or lesser power. Thus when we say “a weak man,” we mean one who has less strength or power to move than men usually have, or than those of his size usually have. This is comparing his strength with the idea we have of the usual strength of men, or of men of that size. It is the same when we say that creatures are all weak things. “Weak” there is only a relative term, signi-

14 Charing Cross, in Westminster, was the conventional point from which distances from London were measured.

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signifying the disproportion there is in the power of God and the creatures.

And so abundance of words, in ordinary speech, stand only for relations (and perhaps the greatest part) which at first sight seem to have no such signification: *v. g.* the ship has necessary stores. Necessary and stores are both relative words; one having a relation to the accomplishing the voyage intended, and the other to future use. All which relations, how they are confined to and terminate in ideas derived from sensation or reflection, is too obvious to need any explication.

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fying the disproportion between the power of God and that of creatures.

And so a great many words in ordinary speech (perhaps the greater part) stand only for relations, though at first sight they seem to have no such meaning. For example: "the ship has necessary stores." "Necessary" and "stores" are both relative words. The first relates to the accomplishment of the intended voyage, and the second to future use. How all these relations are confined to, and terminate in, ideas derived from sensation or reflection is too obvious to need any explanation.

IDENTITY AND DIVERSITY

Locke explains identity of atoms, masses, plants, animals and man, and when things count as the same.

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2.27.1 *Wherein identity consists.*—Another occasion the mind often takes of comparing, is the very being of things: when considering any thing as existing at any determined time and place, we compare it with itself existing at another time, and thereon form the ideas of identity and diversity.

When we see any thing to be in any place in any instant of time, we are sure (be it what it will) that it is that very thing, and not another which at that same time exists in another place, how like and undistinguishable soever it may be in all other respects: and in this consists identity, when the ideas it is attributed to vary not at all from what they were that moment wherein we consider their former existence, and to which we compare the present.

For we never finding nor conceiving it possible that two things of the same kind should exist in the same place at the same time, we rightly conclude, that whatever exists any where at any time, excludes all of the same kind, and is there itself alone. When, therefore, we demand, whether any thing be the same or no, it refers always to something that existed such a time in such a place, which it is certain at that instant was the same with itself, and no other.

From whence it follows, that one thing cannot have two beginnings of existence, nor two things one beginning; it being impossible for two things of the same kind to be or exist in the same instant, in the very same place, or one and the same thing

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What identity consists in.—The mind often compares things on another occasion as well, namely, their very being. When we consider anything as existing at some particular time and place, we compare it with itself existing at another time. From this we form the ideas of identity and diversity.

When we see anything in some place at some instant of time, we are sure (whatever it may be) that it is that very thing. It is not another thing existing at that same time in another place, however alike and indistinguishable the two may be in all other respects. And identity consists in this: the ideas it is attributed to do not vary at all from what they were at the moment of their former existence which we are considering, and with which we compare the present.

For we never find, nor conceive it possible, that two things of the same kind should exist in the same place at the same time. So we rightly conclude that whatever exists anywhere at any time excludes everything of the same kind, and is there alone. Therefore, when we ask whether anything is the same or not, the question always refers to something that existed at such a time in such a place. At that instant it was certainly the same as itself and no other.

From this it follows that one thing cannot have two beginnings of existence, nor two things one beginning. It is impossible for two things of the same kind to be or exist at the same instant in the very same place, or for one and the same thing to

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in different places. That therefore that had one beginning, is the same thing; and that which had a different beginning in time and place from that, is not the same, but diverse. That which has made the difficulty about this relation, has been the little care and attention used in having precise notions of the things to which it is attributed.

2.27.2 *Identity of substances.*—We have the ideas but of three sorts of substances: 1. God. 2. Finite intelligences. 3. Bodies. First, God is without beginning, eternal, unalterable, and every where; and therefore concerning his identity there can be no doubt. Secondly, finite spirits, having had each its determinate time and place of beginning to exist, the relation to that time and place will always determine to each of them its identity, as long as it exists. Thirdly, the same will hold of every particle of matter, to which no addition or subtraction of matter being made, it is the same.

For though these three sorts of substances, as we term them, do not exclude one another out of the same place; yet we cannot conceive but that they must necessarily each of them exclude any of the same kind out of the same place: or else the notions and names of identity and diversity would be in vain, and there could be no such distinction of substances, or any thing else one from another. For example: could two bodies be in the same place at the same time, then those two parcels of matter must be one and the same, take them great or little; nay, all bodies must be one and the same.

For by the same reason that two particles of matter may be in one place, all bodies may be in one place: which, when it can be supposed, takes away the distinction of identity and diversity of one and more, and renders it ridiculous. But it being a contradiction, that two or more should be one, identity and diversity are relations and ways of comparing well-founded, and of use to the understanding.

Identity of modes.—All other things being but modes or relations ultimately terminated in substances, the identity and diversity of each particular existence of them too will be by the same way determined: only as to things whose existence is in succession, such as are the actions of finite beings, *v. g.* motion and thought, both

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exist in different places. Therefore what had one beginning is the same thing, and what had a beginning different from it in time and place is not the same, but diverse. What has made this relation difficult has been the lack of care and attention in forming precise notions of the things to which it is attributed.

Identity of substances.—We have ideas of only three sorts of substances: (1) God, (2) finite intelligences, (3) bodies. First, God is without beginning, eternal, unalterable, and everywhere, so there can be no doubt about his identity. Second, each finite spirit began to exist at a determinate time and place, so the relation to that time and place will always determine its identity as long as it exists. Third, the same holds for every particle of matter: as long as no matter is added to it or taken from it, it is the same.

These three sorts of substances, as we call them, do not exclude one another from the same place. Still, we cannot conceive otherwise than that each of them must necessarily exclude any other of the same kind from the same place. If it were not so, the notions and names of identity and diversity would be pointless, and there could be no such distinction between substances, or between any other things. For example, if two bodies could be in the same place at the same time, those two parcels of matter would have to be one and the same, whether large or small. Indeed, all bodies would have to be one and the same.

For by the same reasoning by which two particles of matter may be in one place, all bodies may be in one place. And once that can be supposed, it does away with the distinction of identity and diversity, of one and more, and makes it ridiculous. But it is a contradiction that two or more should be one. So identity and diversity are well-founded relations and ways of comparing, and useful to the understanding.

Identity of modes.—All other things are only modes or relations that ultimately terminate in substances. So the identity and diversity of each particular existence of them will also be determined in the same way. But some things exist in succession, such as the actions of finite beings, for example motion and thought, both of which consist

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which consist in a continued train of succession; concerning their diversity, there can be no question: because each perishing the moment it begins, they cannot exist in different times, or in different places, as permanent beings can at different times exist in distant places; and therefore no motion or thought, considered as at different times, can be the same, each part thereof having a different beginning of existence.

2.27.3 *Principium individuationis.*—From what has been said, it is easy to discover what is so much inquired after, the *principium individuationis*; and that, it is plain, is existence itself, which determines a being of any sort to a particular time and place, incommunicable to two beings of the same kind. This, though it seems easier to conceive in simple substances or modes, yet when reflected on is not more difficult in compound ones, if care be taken to what it is applied: *v. g.* let us suppose an atom, *i. e.* a continued body under one immutable superficies, existing in a determined time and place: it is evident that, considered in any instant of its existence, it is in that instant the same with itself.

For being at that instant what it is, and nothing else, it is the same, and so must continue as long as its existence is continued; for so long it will be the same, and no other. In like manner, if two or more atoms be joined together into the same mass, every one of those atoms will be the same, by the foregoing rule: and whilst they exist united together, the mass, consisting of the same atoms, must be the same mass, or the same body, let the parts be ever so differently jumbled. But if one of these atoms be taken away, or one new one added, it is no longer the same mass, or the same body.

In the state of living creatures, their identity depends not on a mass of the same particles, but on something else. For in them the variation of great parcels of matter alters not the identity: an oak growing from a plant to a great tree, and then lopped, is still the same oak; and a colt grown up to a horse, sometimes fat, sometimes lean, is all the while the same horse; though, in both these cases, there may be a manifest change of the parts; so that truly they are not either of them the same masses of matter, though they be truly one

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in a continuous train of succession. There can be no question about the diversity of these things. Each of them perishes the moment it begins, so they cannot exist at different times or in different places, as permanent beings can exist at different times in distant places. Therefore no motion or thought, considered at different times, can be the same, since each part of it has a different beginning of existence.

Principium individuationis.—From what has been said, it is easy to discover the thing so much inquired after, the *principium individuationis*. It is plainly existence itself, which fixes a being of any sort to a particular time and place that cannot be shared by two beings of the same kind. This seems easier to conceive in simple substances or modes. When reflected on, however, it is no more difficult in compound ones, if we take care what it is applied to. For example, let us suppose an atom, that is, a continuous body under one unchangeable surface, existing at a definite time and place. It is evident that, considered at any instant of its existence, it is at that instant the same as itself.[15]

For being at that instant what it is and nothing else, it is the same, and must remain so as long as its existence continues. For so long it will be the same and no other. In the same way, if two or more atoms are joined together into the same mass, each of those atoms will be the same, by the rule just given. While they exist united together, the mass, consisting of the same atoms, must be the same mass or the same body, however differently the parts are jumbled. But if one of these atoms is taken away, or one new one added, it is no longer the same mass or the same body.

In the case of living creatures, their identity depends not on a mass of the same particles but on something else. For in them a change in large parcels of matter does not alter identity. An oak growing from a sapling to a great tree, and then lopped, is still the same oak. A colt grown up into a horse, sometimes fat, sometimes lean, is all the while the same horse. Yet in both cases there may be an obvious change of parts. So in truth neither of them is the same mass of matter, though one of them is

15 Latin: "the principle of individuation," the scholastic term for whatever makes a thing this particular individual.

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of them the same oak, and the other the same horse.

The reason whereof is, that in these two cases, a mass of matter, and a living body, identity is not applied to the same thing.

2.27.4 *Identity of vegetables.*—We must therefore consider wherein an oak differs from a mass of matter, and that seems to me to be in this, that the one is only the cohesion of particles of matter any how united, the other such a disposition of them as constitutes the parts of an oak; and such an organization of those parts as is fit to receive and distribute nourishment, so as to continue and frame the wood, bark, and leaves, &c. of an oak, in which consists the vegetable life.

That being then one plant which has such an organization of parts in one coherent body partaking of one common life, it continues to be the same plant as long as it partakes of the same life, though that life be communicated to new particles of matter vitally united to the living plant, in a like continued organization conformable to that sort of plants.

For this organization being at any one instant in any one collection of matter, is in that particular concrete, distinguished from all other, and is that individual life which existing constantly from that moment both forwards and backwards, in the same continuity of insensibly succeeding parts united to the living body of the plant, it has that identity, which makes the same plant, and all the parts of it, parts of the same plant, during all the time that they exist united in that continued organization, which is fit to convey that common life to all the parts so united.

2.27.5 *Identity of animals.*—The case is not so much different in brutes, but that any one may hence see what makes an animal, and continues it the same. Something we have like this in machines, and may serve to illustrate it. For example, what is a watch? It is plain it is nothing but a fit organization, or construction of parts, to a certain end, which, when a sufficient force is added to it, it is capable to attain.

If we would suppose this machine one continued body, all whose organized parts were repaired, increased, or diminished, by a constant addition or separation of insensible parts, with one

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truly the same oak and the other truly the same horse.

The reason is that in these two cases, a mass of matter and a living body, identity is not applied to the same thing.

Identity of plants.—We must therefore consider how an oak differs from a mass of matter. It seems to me that the difference lies in this. The one is only the cohesion of particles of matter united in any way whatever. The other is such an arrangement of them as makes up the parts of an oak, and such an organization of those parts as is fit to receive and distribute nourishment, so as to continue and form the wood, bark, leaves, and so on, of an oak. In this consists vegetable life.

That, then, is one plant which has such an organization of parts in one coherent body sharing one common life. So it goes on being the same plant as long as it shares the same life, even though that life is passed on to new particles of matter vitally united to the living plant, in a similar continued organization suited to that sort of plant.

For this organization, being at any one instant in some one collection of matter, is in that particular concrete thing distinguished from every other. It is that individual life which exists continuously from that moment both forward and backward, in the same continuity of imperceptibly succeeding parts united to the living body of the plant. It therefore has that identity which makes it the same plant, and makes all its parts parts of the same plant, for as long as they exist united in that continued organization which is fit to convey that common life to all the parts so united.

Identity of animals.—The case is not so different in animals that anyone cannot see from this what makes an animal and keeps it the same. We have something like this in machines, which may serve to illustrate it. For example, what is a watch? It is plainly nothing but a suitable organization or construction of parts for a certain end, which it is capable of attaining when a sufficient force is applied to it.

Suppose this machine were one continuous body, all of whose organized parts were repaired, increased, or diminished by a constant addition or separation of imperceptible parts, with one com-

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common life, we should have something very much like the body of an animal, with this difference, that in an animal the fitness of the organization, and the motion wherein life consists, begin together, the motion coming from within; but in machines, the force coming sensibly from without, is often away when the organ is in order, and well fitted to receive it.

2.27.6 *Identity of man.*—This also shows wherein the identity of the same man consists; viz. in nothing but a participation of the same continued life, by constantly fleeting particles of matter, in succession, vitally united to the same organized body.

He that shall place the identity of man in any thing else, but, like that of other animals, in one fitly organized body, taken in any one instant, and from thence continued under one organization of life in several successively fleeting particles of matter united to it, will find it hard to make an embryo, one of years, mad and sober, the same man, by any supposition, that will not make it possible for Seth, Ishmael, Socrates, Pilate, St Austin, and Cæsar Borgia, to be the same man.

But if the identity of soul alone makes the same man, and there be nothing in the nature of matter why the same individual spirit may not be united to different bodies, it will be possible that those men living in distant ages, and of different tempers, may have been the same man: which way of speaking must be, from a very strange use of the word man, applied to an idea, out of which body and shape are excluded.

And that way of speaking would agree yet worse with the notions of those philosophers who allow of transmigration, and are of opinion that the souls of men may, for their miscarriages, be detruded into the bodies of beasts, as fit habitations, with organs suited to the satisfaction of their brutal inclinations. But yet, I think, nobody, could he be sure that the soul of Heliogabalus were in one of his hogs, would yet say that hog were a man or Heliogabalus.

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mon life. We would then have something very like the body of an animal, with this difference. In an animal, the fitness of the organization and the motion in which life consists begin together, the motion coming from within. In machines, the force comes perceptibly from outside, and it is often absent when the organ is in order and well fitted to receive it.

Identity of man.—This also shows what the identity of the same man consists in: namely, in nothing but a participation in the same continued life, by constantly fleeting particles of matter succeeding one another, vitally united to the same organized body.

As with other animals, the identity of man lies in one suitably organized body, taken at any one instant and continued from then on under one organization of life in various successively fleeting particles of matter united to it. Anyone who places it in anything else will find it hard to make an embryo and a man of years the same man, or a man insane and the same man sane,, on any supposition that will not also make it possible for Seth, Ishmael, Socrates, Pilate, St. Augustine, and Cesare Borgia to be the same man.[16]

But suppose identity of soul alone makes the same man, and there is nothing in the nature of matter to prevent the same individual spirit from being united to different bodies. Then it will be possible that those men, living in distant ages and of different temperaments, may have been the same man. That way of speaking must come from a very strange use of the word man, applied to an idea from which body and shape are excluded.

And that way of speaking would fit even worse with the notions of those philosophers who accept transmigration. They hold that the souls of men may, for their misdeeds, be thrust down into the bodies of beasts, as fit dwellings, with organs suited to satisfying their brutish inclinations. And yet I think nobody, even if he were sure that the soul of Heliogabalus was in one of his hogs, would say that hog was a man, or Heliogabalus.[17]

16 A deliberately mixed list: Seth, son of Adam; Ishmael, son of Abraham; Pontius Pilate; Augustine of Hippo; and Cesare Borgia (1475–1507), the notorious Renaissance prince.

17 Heliogabalus (Elagabalus), Roman emperor 218–222, was proverbial for depravity.

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Identity suited to the idea.—It is not therefore unity of substance that comprehends all sorts of identity, or will determine it in every case: but to conceive and judge of it aright, we must consider what idea the word it is applied to stands for; it being one thing to be the same substance, another the same man, and a third the same person, if person, man, and substance are three names standing for three different ideas; for such as is the idea belonging to that name, such must be the identity; which, if it had been a little more carefully attended to, would possibly have prevented a great deal of that confusion, which often occurs about this matter, with no small seeming difficulties, especially concerning personal identity, which therefore we shall in the next place a little consider.

2.27.8 *Same man.*—An animal is a living organized body; and frequently the same animal, as we have observed, is the same continued life communicated to different particles of matter, as they happen successively to be united to that organized living body.

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Identity suited to the idea.—It is not, therefore, unity of substance that covers all sorts of identity or will settle it in every case. To conceive and judge of it correctly, we must consider what idea the word it is applied to stands for. It is one thing to be the same substance, another to be the same man, and a third to be the same person, if person, man, and substance are three names standing for three different ideas. For as the idea belonging to that name is, so must the identity be. If this had been attended to a little more carefully, it might have prevented a great deal of the confusion that often arises about this matter, with no small apparent difficulties. This is especially true of personal identity, which we shall therefore consider a little next.

Same man.—An animal is a living organized body. As we have observed, the same animal is frequently the same continued life communicated to different particles of matter, as they successively happen to be united to that organized living body.

THE RATIONAL PARROT

Locke tells Temple's story of Prince Maurice's talking parrot to show that "man" means a certain bodily shape.

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And whatever is talked of other definitions, ingenious observation puts it past doubt, that the idea in our minds, of which the sound man in our mouths is the sign, is nothing else but of an animal of such a certain form: since I think I may be confident, that whoever should see a creature of his own shape and make, though it had no more reason all its life than a cat or a parrot, would call him still a man; or whoever should hear a cat or a parrot discourse, reason, and philosophize, would call or think it nothing but a cat or a parrot; and say, the one was a dull irrational man, and the other a very intelligent rational parrot.

A relation we have in an author of great note is sufficient to countenance the supposition of a rational parrot. His words are[1]:

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Whatever is said about other definitions, fair-minded observation puts it beyond doubt that the idea in our minds, of which the sound man in our mouths is the sign, is nothing but the idea of an animal of a certain form. For I think I may be confident of this. Anyone who saw a creature of his own shape and build would still call him a man, even if it had no more reason all its life than a cat or a parrot. And anyone who heard a cat or a parrot converse, reason, and philosophize would call it, or think it, nothing but a cat or a parrot. He would say that the one was a dull, irrational man and the other a very intelligent, rational parrot.

An account we have from an author of great repute is enough to support the supposition of a rational parrot. His words are these[1]:[18]

18 The author is Sir William Temple (1628–1699), English diplomat and essayist. The prince is John Maurice (Johan Maurits) of Nassau-Siegen, governor of Dutch Brazil 1636–1644.

"I had a mind to know from Prince Maurice's own mouth the account of a common, but much credited story, that I heard so often from many others, of an old parrot he had in Brasil during his government there, that spoke, and asked, and answered common questions like a reasonable creature: so that those of his train there generally concluded it to be witchery or possession; and one of his chaplains, who lived long after in Holland, would never from that time endure a parrot, but said, they all had a devil in them. I had heard many particulars of this story, and assevered by people hard to be discredited, which made me ask Prince Maurice what there was of it.

He said, with his usual plainness and dryness in talk, there was something true, but a great deal false of what had been reported. I desired to know of him what there was of the first? He told me short and coldly, that he had heard of such an old parrot when he had been at Brasil; and though he believed nothing of it, and it was a good way off, yet he had so much curiosity as to send for it: that it was a very great and a very old one, and when it came first in the room where the prince was, with a great many Dutchmen about him, it said presently, What a company of white men are here!

They asked it what it thought that man was? pointing to the prince. It answered, some general or other; when they brought it close to him, he asked it, [2]D'ou venez vous? It answered, De Marinnan. The Prince, A qui estes vous? The parrot, A un Portugais. Prince, Que fais tu la? Parrot, Je gardez les poulles. The prince laughed, and said, Vous gardez les poulles? The parrot answered, Oui, moi, et je scai bien faire; and made the chuck four or five times that people use to make to chickens when they call them. I set down the words of this worthy dialogue in French, just as Prince Maurice said them to me.

I asked him in what language the parrot spoke, and he said, in Brasilian; I asked whether he understood Brasilian; he said, no, but he had

"I had a mind to hear from Prince Maurice's own mouth the truth of a common but widely believed story, which I had heard so often from many others. It concerned an old parrot he had in Brazil during his government there, which spoke, and asked and answered ordinary questions like a rational creature, so that the people in his retinue there generally concluded it was witchcraft or possession. One of his chaplains, who lived long afterward in Holland, could never from that time on stand a parrot, but said they all had a devil in them. I had heard many details of this story, affirmed by people it would be hard to disbelieve, which made me ask Prince Maurice what there was to it.

He said, with his usual plainness and dryness in conversation, that there was something true, but a great deal false, in what had been reported. I asked him what the true part was. He told me, briefly and coolly, that he had heard of such an old parrot when he was in Brazil. He believed nothing of it, and it was a good way off, yet he had enough curiosity to send for it. It was a very large and a very old one. When it first came into the room where the prince was, with a great many Dutchmen around him, it said at once, What a company of white men are here!

They pointed to the prince and asked it who it thought that man was. It answered, Some general or other. When they brought it close to him, he asked it, [2]D'ou venez vous? It answered, De Marinnan. The prince, A qui estes vous? The parrot, A un Portugais. The prince, Que fais tu la? The parrot, Je gardez les poulles. The prince laughed and said, Vous gardez les poulles? The parrot answered, Oui, moi, et je scai bien faire. Then it made, four or five times, the clucking sound people make to chickens when they call them. I set down the words of this fine dialogue in French, just as Prince Maurice spoke them to me.[20]

I asked him what language the parrot spoke, and he said Brazilian. I asked whether he understood Brazilian. He said no, but he had taken care to

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[1] Memoirs of what passed in Christendom from 1672 to 1679, p. 57/392.

[1] Memoirs of What Passed in Christendom from 1672 to 1679, p. 57/392.

20 Marinnan is Maranhão, in northern Brazil. The "Brazilian" language of the next paragraph is presumably Tupi, the common language of the coast.

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taken care to have two interpreters by him, the one a Dutchman that spoke Brasilian, and the other a Brasilian that spoke Dutch; that he asked them separately and privately, and both of them agreed in telling him just the same thing that the parrot had said.

I could not but tell this odd story, because it is so much out of the way, and from the first hand, and what may pass for a good one; for I dare say this prince at least believed himself in all he told me, having ever passed for a very honest and pious man. I leave it to naturalists to reason, and to other men to believe, as they please upon it; however, it is not, perhaps, amiss to relieve or enliven a busy scene sometimes with such digressions, whether to the purpose or no."

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Same man.—I have taken care that the reader should have the story at large in the author's own words, because he seems to me not to have thought it incredible; for it cannot be imagined that so able a man as he, who had sufficiency enough to warrant all the testimonies he gives of himself, should take so much pains in a place where it had nothing to do, to pin so close not only on a man whom he mentions as his friend, but on a prince in whom he acknowledges very great honesty and piety, a story which, if he himself thought incredible, he could not but also think ridiculous. The prince, it is plain, who vouches this story, and our author, who relates it from him, both of them call this talker a parrot;

and I ask any one else, who thinks such a story fit to be told, whether if this parrot, and all of its kind, had always talked, as we have a prince's word for it this one did, whether, I say, they would not have passed for a race of rational animals but yet whether for all that they would have been allowed to be men, and not parrots?

For I presume it is not the idea of a thinking or rational being alone that makes the idea of a man in most people's sense, but of a body, so and so shaped, joined to it and if that be the idea of a

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have two interpreters with him, one a Dutchman who spoke Brazilian and the other a Brazilian who spoke Dutch. He had asked them separately and privately, and both of them agreed in telling him exactly what the parrot had said.

I could not help telling this odd story, because it is so out of the ordinary, and at first hand, and may pass for a good one. For I dare say this prince at least believed himself in all he told me, having always been reputed a very honest and pious man. I leave it to naturalists to reason about it, and to other men to believe what they please about it. However, it is perhaps not amiss sometimes to relieve or enliven a busy scene with such digressions, whether to the purpose or not."

Same man.—I have taken care that the reader should have the story in full in the author's own words, because he seems to me not to have thought it incredible. He was an able man, with merit enough to justify all the good things he says of himself. It cannot be imagined that such a man would take so much trouble, in a place where it had nothing to do with his subject, to pin a story so firmly on a man he mentions as his friend, and on a prince in whom he acknowledges very great honesty and piety at that, if he himself thought the story incredible. For then he could not help thinking it ridiculous too. Plainly, the prince who vouches for this story, and our author who relates it from him, both call this talker a parrot;

and I ask anyone else who thinks such a story fit to be told this question. Suppose this parrot and all its kind had always talked as, on a prince's word, this one did. Would they not, I say, have passed for a race of rational animals? And yet, for all that, would they have been allowed to be men and not parrots?

For I presume that, in most people's sense, it is not the idea of a thinking or rational being alone that makes up the idea of a man. It is also the idea of a

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[2] Whence come ye? It answered, From Marinnan. The prince, To whom do you belong? The parrot, To a Portuguese. Prince, What do you there? Parrot, I look after the chickens. The prince laughed, and said, You look after the chickens? The parrot answered, Yes, I and I know well enough how to do it.

[2] Where do you come from? It answered, From Marinnan. The prince, To whom do you belong? The parrot, To a Portuguese. The prince, What do you do there? The parrot, I look after the chickens. The prince laughed and said, You look after the chickens? The parrot answered, Yes, I do, and I know well enough how to do it.

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man, the same successive body not shifted all at once, must, as well as the same immaterial spirit, go to the making of the same man.	body of such-and-such a shape joined to it. And if that is the idea of a man, then the same successive body, not shifted all at once, must go to the making of the same man, as well as the same immaterial spirit.

PERSONAL IDENTITY

Locke defines a person and argues that personal identity consists in consciousness, not in sameness of substance.

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2.27.9 *Personal identity.*—This being premised, to find wherein personal identity consists, we must consider what person stands for: which, I think, is a thinking intelligent being, that has reason and reflection, and can consider itself as itself, the same thinking thing in different times and places; which it does only by that consciousness which is inseparable from thinking, and as it seems to me essential to it: it being impossible for any one to perceive, without perceiving that he does perceive. When we see, hear, taste, smell, feel, meditate, or will any thing, we know that we do so.	*Personal identity.*—With this premised, to find what personal identity consists in, we must consider what person stands for. This, I think, is a thinking intelligent being, that has reason and reflection, and can consider itself as itself, the same thinking thing in different times and places. It does this only by that consciousness which is inseparable from thinking and, as it seems to me, essential to it. For it is impossible for anyone to perceive without perceiving that he does perceive. When we see, hear, taste, smell, feel, meditate, or will anything, we know that we do so.
Thus it is always as to our present sensations and perceptions: and by this every one is to himself that which he calls self; it not being considered in this case whether the same self be continued in the same or divers substances. For since consciousness always accompanies thinking, and it is that which makes every one to be what he calls self, and thereby distinguishes himself from all other thinking things; in this alone consists personal identity, i.	It is always this way with our present sensations and perceptions, and by this everyone is to himself what he calls self. In this case we do not consider whether the same self is continued in the same substance or in different ones. For consciousness always accompanies thinking, and it is what makes everyone to be what he calls self, and so distinguishes him from all other thinking things. In this alone, then, consists personal identity, that is,
e. the sameness of a rational being: and as far as this consciousness can be extended backwards to any past action or thought, so far reaches the identity of that person; it is the same self now it was then; and it is by the same self with this present one that now reflects on it, that that action was done.	the sameness of a rational being. And as far as this consciousness can be extended backward to any past action or thought, so far reaches the identity of that person. It is the same self now as it was then, and that action was done by the same self as this present one that now reflects on it.
2.27.10 *Consciousness makes personal identity.*—But it is farther inquired, whether it be the same identical substance? This few would think they had reason to doubt of, if those perceptions, with their consciousness, always remained present in the mind, whereby the same thinking thing would be always consciously present, and, as would be thought, evidently the same to itself.	*Consciousness makes personal identity.*—But it is further asked whether it is the same identical substance. Few would think they had reason to doubt this if those perceptions, with their consciousness, always remained present in the mind. For then the same thinking thing would always be consciously present and, it would be thought, evidently the same to itself.

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But that which seems to make the difficulty is this, that this consciousness being interrupted always by forgetfulness, there being no moment of our lives wherein we have the whole train of all our past actions before our eyes in one view, but even the best memories losing the sight of one part whilst they are viewing another;—and we sometimes, and that the greatest part of our lives, not reflecting on our past selves, being intent on our present thoughts, and in sound sleep having no thoughts at all, or at least none with that consciousness which remarks our waking thoughts;—I say, in all these cases, our consciousness being interrupted, and we losing the sight of our past selves, doubts are raised whether we are the same thinking thing, i.

e. the same substance, or no. Which, however reasonable or unreasonable, concerns not personal identity at all: the question being, what makes the same person, and not whether it be the same identical substance, which always thinks in the same person; which in this case matters not at all: different substances, by the same consciousness (where they do partake in it,) being united into one person, as well as different bodies by the same life are united into one animal, whose identity is preserved, in that change of substances, by the unity of one continued life.

For it being the same consciousness that makes a man be himself to himself, personal identity depends on that only, whether it be annexed solely to one individual substance, or can be continued in a succession of several substances. For as far as any intelligent being can repeat the idea of any past action with the same consciousness it had of it at first, and with the same consciousness it has of any present action, so far it is the same personal self.

For it is by the consciousness it has of its present thoughts and actions, that it is self to itself now, and so will be the same self, as far as the same consciousness can extend to actions past or to come; and would be by distance of time, or change of substance, no more two persons, than a man be two men by wearing other clothes to-day than he did yesterday, with a long or a short sleep between: the same consciousness uniting those distant actions into the same person, whatever substances contributed to their production.

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But what seems to create the difficulty is this: that this consciousness is always interrupted by forgetfulness. There is no moment of our lives in which we have the whole train of all our past actions before our eyes in one view. Even the best memories lose sight of one part while they are viewing another. Sometimes, indeed for the greater part of our lives, we do not reflect on our past selves at all, being intent on our present thoughts. And in sound sleep we have no thoughts at all, or at least none with that consciousness which marks our waking thoughts. In all these cases, I say, our consciousness is interrupted and we lose sight of our past selves. So doubts are raised whether we are the same thinking thing, that is,

the same substance, or not. However reasonable or unreasonable that doubt may be, it does not concern personal identity at all. The question is what makes the same person. It is not whether it is the same identical substance that always thinks in the same person, which in this case does not matter at all. Different substances are united into one person by the same consciousness (where they do share in it), just as different bodies are united into one animal by the same life. The animal's identity is preserved through that change of substances by the unity of one continued life.

For it is the same consciousness that makes a man be himself to himself. So personal identity depends on that alone, whether it is attached solely to one individual substance or can be continued in a succession of several substances. For as far as any intelligent being can repeat the idea of any past action with the same consciousness it had of it at first, and with the same consciousness it has of any present action, so far it is the same personal self.

For it is by the consciousness it has of its present thoughts and actions that it is self to itself now. So it will be the same self as far as the same consciousness can extend to actions past or to come. Neither distance of time nor change of substance would make it two persons, any more than a man is two men by wearing different clothes today from those he wore yesterday, with a long or a short sleep between. The same consciousness unites those distant actions into the same person,

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2.27.11 *Personal identity in change of substances.*—That this is so, we have some kind of evidence in our very bodies, all whose particles, whilst vitally united to this same thinking conscious self, so that we feel when they are touched, and are affected by, and conscious of good or harm that happens to them, are a part of ourselves, *i. e.* of our thinking conscious self. Thus the limbs of his body are to every one a part of himself: he sympathizes and is concerned for them.

Cut off a hand, and thereby separate it from that consciousness he had of its heat, cold, and other affections, and it is then no longer a part of that which is himself, any more than the remotest part of matter. Thus we see the substance, whereof personal self consisted at one time, may be varied at another, without the change of personal identity; there being no question about the same person, though the limbs, which but now were a part of it, be cut off.

2.27.12 But the question is, "Whether, if the same substance which thinks be changed, it can be the same person; or, remaining the same, it can be different persons?"

Whether in the change of thinking substances.—And to this I answer, first, This can be no question at all to those who place thought in a purely material animal constitution void of an immaterial substance. For whether their supposition be true or no, it is plain they conceive personal identity preserved in something else than identity of substance; as animal identity is preserved in identity of life, and not of substance.

And therefore those who place thinking in an immaterial substance only, before they can come to deal with these men, must show why personal identity cannot be preserved in the change of immaterial substances, or variety of particular immaterial substances, as well as animal identity is preserved in the change of material substances, or variety of particular bodies: unless they will say, it is one immaterial spirit that makes the same life in brutes, as it is one immaterial spirit that makes the same person in men; which the

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whatever substances contributed to producing them.

Personal identity in change of substances.—We have some kind of evidence that this is so in our very bodies. While their particles are vitally united to this same thinking conscious self, we feel when they are touched, and are affected by and conscious of good or harm that happens to them. All such particles are a part of ourselves, that is, of our thinking conscious self. Thus the limbs of his body are to everyone a part of himself. He sympathizes with them and is concerned for them.

Cut off a hand, and so separate it from the consciousness he had of its heat, cold, and other affections. It is then no longer a part of what is himself, any more than the remotest part of matter. Thus we see that the substance of which the personal self consisted at one time may be varied at another without any change of personal identity. For there is no question about its being the same person, even though the limbs which were just now a part of it are cut off.

But the question is: “Whether, if the same substance which thinks is changed, it can be the same person; or whether, while remaining the same, it can be different persons?”

Whether in the change of thinking substances.—To this I answer, first, that this can be no question at all for those who place thought in a purely material animal constitution, without any immaterial substance. For whether their supposition is true or not, they plainly conceive personal identity to be preserved in something other than identity of substance. Animal identity, in the same way, is preserved in identity of life and not of substance.

Those who place thinking in an immaterial substance only must therefore, before they can deal with these men, meet a challenge. They must show why personal identity cannot be preserved through a change of immaterial substances, or a variety of particular immaterial substances, just as animal identity is preserved through a change of material substances, or a variety of particular bodies. The only escape is to say that it is one immaterial spirit that makes the same life in animals, as it is one immaterial spirit that makes the same person in men. The Cartesians at least will

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Cartesians at least will not admit, for fear of making brutes thinking things too.

2.27.13 But next, as to the first part of the question, "Whether if the same thinking substance (supposing immaterial substances only to think) be changed, it can be the same person?" I answer, that cannot be resolved, but by those who know what kind of substances they are that do think, and whether the consciousness of past actions can be transferred from one thinking substance to another. I grant, were the same consciousness the same individual action, it could not; but it being but a present representation of a past action, why it may not be possible that that may be represented to the mind to have been, which really never was, will remain to be shown.

And therefore how far the consciousness of past actions is annexed to any individual agent, so that another cannot possibly have it, will be hard for us to determine, till we know what kind of action it is that cannot be done without a reflex act of perception accompanying it, and how performed by thinking substances, who cannot think without being conscious of it.

But that which we call the same consciousness, not being the same individual act, why one intellectual substance may not have represented to it, as done by itself, what it never did, and was perhaps done by some other agent; why, I say, such a representation may not possibly be without reality of matter of fact, as well as several representations in dreams are, which yet whilst dreaming we take for true, will be difficult to conclude from the nature of things.

And that it never is so, will by us, till we have clearer views of the nature of thinking substances, be best resolved into the goodness of God, who, as far as the happiness or misery of any of his sensible creatures is concerned in it, will not by a fatal error of theirs transfer from one to another that consciousness which draws reward or punishment with it. How far this may be an argument against those who would place thinking in a system of fleeting animal spirits, I leave to be considered.

But yet, to return to the question before us, it must be allowed, that if the same consciousness (which, as has been shown, is quite a different

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not admit that, for fear of making animals thinking things too.

Next, as to the first part of the question: "Whether, if the same thinking substance (supposing that only immaterial substances think) is changed, it can be the same person?" I answer that this cannot be resolved except by those who know what kind of substances they are that think, and whether the consciousness of past actions can be transferred from one thinking substance to another. I grant that if the same consciousness were the same individual action, it could not. But it is only a present representation of a past action. So it remains to be shown why it may not be possible for something to be represented to the mind as having been, which really never was.

How far the consciousness of past actions is attached to any individual agent, so that another cannot possibly have it, will therefore be hard for us to determine. We would first need to know what kind of action it is that cannot be done without a reflex act of perception accompanying it, and how it is performed by thinking substances, which cannot think without being conscious of it.

But what we call the same consciousness is not the same individual act. So it will be difficult to conclude from the nature of things why one intellectual substance may not have represented to it, as done by itself, what it never did, and what was perhaps done by some other agent. Why, I say, may such a representation not possibly exist without any reality of matter of fact? Various representations in dreams exist in just that way, and yet we take them for true while we are dreaming.

Until we have clearer views of the nature of thinking substances, we shall best put down the fact that it never is so to the goodness of God. As far as the happiness or misery of any of his sentient creatures is concerned in it, he will not, by a fatal error of theirs, transfer from one to another that consciousness which brings reward or punishment with it. How far this may be an argument against those who would place thinking in a system of fleeting animal spirits, I leave for consideration.

But still, to return to the question before us, one thing must be granted. The same consciousness (which, as has been shown, is quite a different

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thing from the same numerical figure or motion in body) can be transferred from one thinking substance to another, it will be possible that two thinking substances may make but one person. For the same consciousness being preserved, whether in the same or different substances, the personal identity is preserved.

2.27.14 As to the second part of the question, "whether the same immaterial substance remaining, there may be two distinct persons?" which question seems to me to be built on this, whether the same immaterial being, being conscious of the action of its past duration, may be wholly stripped of all the consciousness of its past existence, and lose it beyond the power of ever retrieving it again; and so as it were beginning a new account from a new period, have a consciousness that cannot reach beyond this new state.

All those who hold pre-existence are evidently of this mind, since they allow the soul to have no remaining consciousness of what it did in the pre-existing state, either wholly separate from body, or informing any other body; and if they should not, it is plain experience would be against them. So that personal identity reaching no farther than consciousness reaches, a pre-existent spirit not having continued so many ages in a state of silence, must needs make different persons.

Suppose a Christian, Platonist or Pythagorean should, upon God's having ended all his works of creation the seventh day, think his soul hath existed ever since; and would imagine it has revolved in several human bodies, as I once met with one who was persuaded his had been the soul of Socrates, how reasonably I will not dispute; this I know, that in the post he filled, which was no inconsiderable one, he passed for a very rational man, and the press has shown that he wanted not parts or learning; would any one say, that he being not conscious of any of Socrates's actions or thoughts, could be the same person with Socrates?

Let any one reflect upon himself, and conclude that he has in himself an immaterial spirit, which is that which thinks in him, and in the constant change of his body keeps him the same; and is that which he calls himself: let him also suppose it to be the same soul that was in Nestor or Thersites at the siege of Troy (for souls being, as

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thing from the same numerical figure or motion in a body) may be transferable from one thinking substance to another. If it is, it will be possible for two thinking substances to make only one person. For if the same consciousness is preserved, whether in the same or in different substances, personal identity is preserved.

Then there is the second part of the question: “Whether, the same immaterial substance remaining, there may be two distinct persons?” This question seems to me to rest on the following. Can the same immaterial being, conscious of the actions of its past duration, be wholly stripped of all consciousness of its past existence, and lose it beyond any power of ever getting it back? Could it then, as it were beginning a new account from a new period, have a consciousness that cannot reach beyond this new state?

All those who hold pre-existence are evidently of this mind. They allow that the soul has no remaining consciousness of what it did in its pre-existing state, whether wholly separate from a body or animating some other body. And if they did not, experience would plainly be against them. Personal identity reaches no further than consciousness reaches. So a pre-existent spirit that has not continued for so many ages in a state of silence must necessarily make different persons.

Suppose a Christian Platonist or Pythagorean should think that, since God ended all his works of creation on the seventh day, his soul has existed ever since. Suppose he should imagine that it has passed through several human bodies. I once met one who was persuaded his had been the soul of Socrates. How reasonably, I will not dispute. This much I know: in the post he filled, which was no insignificant one, he was reputed a very rational man, and the press has shown that he did not lack ability or learning. Would anyone say that he, not being conscious of any of Socrates’s actions or thoughts, could be the same person as Socrates?

Let anyone reflect on himself and conclude that he has in himself an immaterial spirit. This is what thinks in him and keeps him the same through the constant change of his body, and it is what he calls himself. Let him also suppose it to be the same soul that was in Nestor or Thersites at the siege of Troy. (As far as we know anything about souls,

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far as we know any thing of them, in their nature indifferent to any parcel of matter, the supposition has no apparent absurdity in it), which it may have been, as well as it is now the soul of any other man: but he now having no consciousness of any of the actions either of Nestor or Thersites, does or can he conceive himself the same person with either of them?

Can he be concerned in either of their actions? attribute them to himself, or think them his own, more than the actions of any other man that ever existed! So that this consciousness not reaching to any of the actions of either of those men, he is no more one self with either of them, than if the soul or immaterial spirit that now informs him had been created, and began to exist, when it began to inform his present body; though it were ever so true, that the same spirit that informed Nestor's or Thersites's body, were numerically the same that now informs his.

For this would no more make him the same person with Nestor, than if some of the particles of matter that were once a part of Nestor, were now a part of this man; the same immaterial substance, without the same consciousness, no more making the same person by being united to any body, than the same particle of matter, without consciousness, united to any body, makes the same person. But let him once find himself conscious of any of the actions of Nestor, he then finds himself the same person with Nestor.

2.27.15 And thus we may be able, without any difficulty, to conceive the same person at the resurrection, though in a body not exactly in make or parts the same which he had here, the same consciousness going along with the soul that inhabits it. But yet the soul alone, in the change of bodies, would scarce to any one, but to him that makes the soul the man, be enough to make the same man.

For should the soul of a prince, carrying with it the consciousness of the prince's past life, enter and inform the body of a cobbler, as soon as deserted by his own soul, every one sees he would be the same person with the prince, accountable only for the prince's actions; but who would say it was the same man? The body, too,

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they are by nature indifferent to any parcel of matter, so the supposition has no evident absurdity in it.) It may have been that soul, just as well as it is now the soul of any other man. But he now has no consciousness of any of the actions of either Nestor or Thersites. Does he, or can he, conceive himself to be the same person as either of them?[22]

Can he be concerned in the actions of either of them, attribute them to himself, or think them his own, any more than the actions of any other man who ever existed? This consciousness does not reach any of the actions of either of those men. So he is no more one self with either of them than if the soul or immaterial spirit that now animates him had been created, and had begun to exist, when it began to animate his present body. That would hold however true it might be that the spirit that animated Nestor's or Thersites's body was numerically the same one that now animates his.

For this would no more make him the same person as Nestor than if some of the particles of matter that were once a part of Nestor were now a part of this man. The same immaterial substance without the same consciousness does not make the same person by being united to any body. It makes the same person no more than the same particle of matter without consciousness, united to any body, does. But let him once find himself conscious of any of the actions of Nestor, and he then finds himself the same person as Nestor.

In this way we may be able, without any difficulty, to conceive the same person at the resurrection, though in a body not exactly the same in build or parts as the one he had here. For the same consciousness goes along with the soul that inhabits it. But still, in a change of bodies, the soul alone would hardly be enough to make the same man for anyone, except for someone who makes the soul the man.

Suppose the soul of a prince, carrying with it the consciousness of the prince's past life, should enter and animate the body of a cobbler as soon as his own soul had deserted it. Everyone sees that he would be the same person as the prince, accountable only for the prince's actions. But who

22 In Homer's *Iliad*, Nestor is the wise old king of Pylos and Thersites the ugly, railing common soldier.

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goes to the making the man, and would, I guess, to every body determine the man in this case; wherein the soul with all its princely thoughts about it, would not make another man: but he would be the same cobbler to every one besides himself.

I know that, in the ordinary way of speaking, the same person and the same man, stand for one and the same thing. And indeed every one will always have a liberty to speak as he pleases, and to apply what articulate sounds to what ideas he thinks fit, and change them as often as he pleases. But yet when we will inquire what makes the same spirit, man, or person, we must fix the ideas of spirit, man, or person in our minds; and having resolved with ourselves what we mean by them, it will not be hard to determine in either of them, or the like, when it is the same, and when not.

2.27.16 *Consciousness makes the same person.*—But though the same immaterial substance or soul does not alone, wherever it be, and in whatsoever state, make the same man; yet it is plain, consciousness, as far as ever it can be extended, should it be to ages past, unites existences and actions, very remote in time, into the same person, as well as it does the existences and actions of the immediately preceding moment; so that whatever has the consciousness of present and past actions, is the same person to whom they both belong.

Had I the same consciousness that I saw the ark and Noah's flood, as that I saw an overflowing of the Thames last winter, or as that I write now; I could no more doubt that I who write this now, that saw the Thames overflowed last winter, and that viewed the flood at the general deluge, was the same self, place that self in what substance you please, than that I who write this am the same myself now whilst I write (whether I consist of all the same substance, material or immaterial, or no) that I was yesterday.

For as to this point of being the same self, it matters not whether this present self be made up of the same or other substances; I being as much concerned, and as justly accountable for any action that was done a thousand years since, appropriated to me now by this self-

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would say it was the same man? The body, too, goes into the making of the man. In this case, I suppose, it would decide the man for everybody. The soul, with all its princely thoughts about it, would not make another man. He would be the same cobbler to everyone except himself.

I know that in the ordinary way of speaking, the same person and the same man stand for one and the same thing. And indeed everyone will always be free to speak as he pleases, to apply whatever articulate sounds to whatever ideas he thinks fit, and to change them as often as he pleases. But when we want to inquire what makes the same spirit, man, or person, we must fix the ideas of spirit, man, or person in our minds. Once we have settled with ourselves what we mean by them, it will not be hard to determine, for any of them or the like, when it is the same and when not.

Consciousness makes the same person.—The same immaterial substance or soul does not by itself, wherever it may be and in whatever state, make the same man. Yet consciousness plainly does something, as far as it can ever be extended, even to ages past. It unites existences and actions very remote in time into the same person, just as it does the existences and actions of the moment immediately before. So whatever has the consciousness of present and past actions is the same person to whom they both belong.

Suppose I were as conscious of having seen the ark and Noah's flood as I am of having seen the Thames overflow last winter, or of writing now. Then I could no more doubt that I who write this now, who saw the Thames overflow last winter, and who viewed the flood at the general deluge, was one and the same self, place that self in whatever substance you please, than I could doubt that I who write this am now, while I write, the same myself that I was yesterday (whether or not I consist of all the same substance, material or immaterial).

For as to this point of being the same self, it does not matter whether this present self is made up of the same substances or of others. Suppose an action done a thousand years ago is appropriated to me now by this self-consciousness. I am then as much concerned in it, and as justly accountable for it, as I am for what I did the moment before.

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consciousness, as I am for what I did the last moment.

2.27.17 *Self depends on consciousness.*—Self is that conscious thinking thing (whatever substance made up of, whether spiritual or material, simple or compounded, it matters not) which is sensible, or conscious of pleasure and pain, capable of happiness or misery, and so is concerned for itself, as far as that consciousness extends. Thus every one finds, that whilst comprehended under that consciousness, the little finger is as much a part of himself, as what is most so. Upon separation of this little finger, should this consciousness go along with the little finger, and leave the rest of the body, it is evident the little finger would be the person, the same person; and self then would have nothing to do with the rest of the body.

As in this case it is the consciousness that goes along with the substance, when one part is separate from another, which makes the same person, and constitutes this inseparable self; so it is in reference to substances remote in time. That with which the consciousness of this present thinking thing can join itself, makes the same person, and is one self with it, and with nothing else; and so attributes to itself, and owns all the actions of that thing as its own, as far as that consciousness reaches, and no farther; as every one who reflects will perceive.

2.27.18 *Objects of reward and punishment.*—In this personal identity is founded all the right and justice of reward and punishment; happiness and misery being that for which every one is concerned for himself, and not mattering what becomes of any substance not joined to, or affected with that consciousness. For as it is evident in the instance I gave but now, if the consciousness went along with the little finger when it was cut off, that would be the same self which was concerned for the whole body yesterday, as making part of itself, whose actions then it cannot but admit as its own now.

Though if the same body should still live, and immediately, from the separation of the little finger, have its own peculiar consciousness, whereof the little finger knew nothing; it would not at all be concerned for it, as a part of itself, or

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Self depends on consciousness.—Self is that conscious thinking thing (whatever substance it is made of, spiritual or material, simple or compound, it does not matter) which is sensible or conscious of pleasure and pain, capable of happiness or misery, and so is concerned for itself as far as that consciousness extends. Thus everyone finds that, while it is included within that consciousness, the little finger is as much a part of himself as whatever is most so. Suppose this little finger were cut off, and this consciousness went along with it and left the rest of the body. Then evidently the little finger would be the person, the same person, and self would have nothing to do with the rest of the body.

In this case, when one part is separated from another, it is the consciousness that goes along with the substance which makes the same person and constitutes this inseparable self. It is the same with regard to substances remote in time. Whatever the consciousness of this present thinking thing can join itself to makes the same person, and is one self with it, and with nothing else. So it attributes to itself, and owns as its own, all the actions of that thing, as far as that consciousness reaches and no further. Everyone who reflects will perceive this.

Objects of reward and punishment.—On this personal identity is founded all the right and justice of reward and punishment. For happiness and misery are what everyone is concerned about for himself, and it does not matter to him what becomes of any substance not joined to or affected by that consciousness. This is evident in the example I gave just now. If the consciousness went along with the little finger when it was cut off, that would be the same self which was concerned for the whole body yesterday, as making part of itself. It cannot help admitting that body's actions of yesterday as its own now.

But suppose the same body should still live and, immediately upon the separation of the little finger, have its own particular consciousness, of which the little finger knew nothing. Then the finger would not be concerned for that body at all as

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could own any of its actions, or have any of them imputed to him.

2.27.19 This may show us wherein personal identity consists; not in the identity of substance, but, as I have said, in the identity of consciousness; wherein, if Socrates and the present mayor of Queenborough agree, they are the same person: if the same Socrates waking and sleeping do not partake of the same consciousness, Socrates waking and sleeping is not the same person. And to punish Socrates waking for what sleeping Socrates thought, and waking Socrates was never conscious of, would be no more of right, than to punish one twin for what his brother twin did whereof he knew nothing, because their outsides were so like that they could not be distinguished; for such twins have been seen.

2.27.20 But yet possibly it will still be objected, suppose I wholly lose the memory of some parts of my life beyond a possibility of retrieving them, so that perhaps I shall never be conscious of them again; yet am I not the same person that did those actions, had those thoughts that I once was conscious of, though I have now forgot them? To which I answer, that we must here take notice what the word I is applied to; which, in this case, is the man only. And the same man being presumed to be the same person, I is easily here supposed to stand also for the same person.

But if it be possible for the same man to have distinct incommunicable consciousness at different times, it is past doubt the same man would at different times make different persons; which, we see, is the sense of mankind in the solemnest declarations of their opinions; human laws not punishing the *[mentally ill]* man for the sober man's actions, nor the sober man for what the *[mentally ill]* man did, thereby making them two persons: which is somewhat

explained by our way of speaking in English, when we say, such a one is not himself, or is beside himself; in which phrases, it is insinuated, as if those who now, or at least first used them, thought that self was changed, the self-same person was no longer in that man.

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a part of itself. Nor could it own any of the body's actions, or have any of them imputed to it.

This may show us what personal identity consists in. It is not identity of substance but, as I have said, identity of consciousness. If Socrates and the present mayor of Queenborough agree in this, they are the same person. If the same Socrates waking and sleeping does not share the same consciousness, Socrates waking and Socrates sleeping are not the same person. Suppose we punished Socrates waking for what sleeping Socrates thought, and waking Socrates was never conscious of. That would be no more just than to punish one twin for something his twin brother did and he knew nothing of, because their outsides were so alike that they could not be told apart. Such twins have been seen.[23]

But perhaps it will still be objected: suppose I wholly lose the memory of some parts of my life beyond any possibility of retrieving them, so that perhaps I shall never be conscious of them again. Am I not still the same person who did those actions and had those thoughts that I was once conscious of, though I have now forgotten them? To this I answer that we must notice here what the word "I" is applied to. In this case it is only the man. And since the same man is presumed to be the same person, "I" is here easily supposed to stand also for the same person.

But it may be possible for the same man to have distinct, incommunicable consciousness at different times. If so, the same man would beyond doubt make different persons at different times. This, we see, is the sense of mankind in the most solemn declarations of their opinions. Human laws do not punish the mentally ill man for the sane man's actions, nor the sane man for what the mentally ill man did, and so they make them two persons. This is to some extent

explained by our way of speaking in English, when we say that someone is not himself, or is beside himself. These phrases suggest that those who use them now, or at least those who first used them, thought that the self was changed, and that the selfsame person was no longer in that man.

23 Queenborough is a small borough in Kent, chosen as an obscure contrast to Socrates.

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2.27.21 *Difference between identity of man and person.*—But yet it is hard to conceive that Socrates, the same individual man, should be two persons. To help us a little in this, we must consider what is meant by Socrates or the same individual man.

First, it must be either the same individual, immaterial, thinking substance; in short, the same numerical soul, and nothing else.

Secondly, or the same animal, without any regard to an immaterial soul.

Thirdly, or the same immaterial spirit united to the same animal.

Now, take which of these suppositions you please, it is impossible to make personal identity to consist in any thing but consciousness, or reach any farther than that does.

For by the first of them, it must be allowed possible that a man born of different women, and in distant times, may be the same man. A way of speaking, which, whoever admits, must allow it possible for the same man to be two distinct persons as any two that have lived in different ages, without the knowledge of one another's thoughts.

By the second and third, Socrates in this life, and after it, cannot be the same man any way but by the same consciousness; and so making human identity to consist in the same thing wherein we place personal identity, there will be no difficulty to allow the same man to be the same person. But then they who place human identity in consciousness only, and not in something else, must consider how they will make the infant Socrates the same man with Socrates after the resurrection.

But whatsoever to some men makes a man, and consequently the same individual man, wherein perhaps few are agreed, personal identity can by us be placed in nothing but consciousness, (which is that alone which makes what we call self) without involving us in great absurdities.

2.27.22 But is not man, drunk and sober, the same person? why else is he punished for the fact he commits when drunk, though he be never

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Difference between identity of man and person.—But still it is hard to conceive that Socrates, the same individual man, should be two persons. To help us a little with this, we must consider what is meant by Socrates, or the same individual man.

First, it must be either the same individual, immaterial, thinking substance: in short, the same numerical soul, and nothing else.

Second, or the same animal, without any regard to an immaterial soul.

Third, or the same immaterial spirit united to the same animal.

Now, take whichever of these suppositions you please. It is impossible to make personal identity consist in anything but consciousness, or reach any further than that does.

For by the first of them, it must be allowed possible that a man born of different women, and at distant times, may be the same man. Whoever admits this way of speaking must allow it possible for the same man to be two distinct persons. They would be as distinct as any two people who have lived in different ages without knowledge of one another's thoughts.

By the second and third, Socrates in this life and after it cannot be the same man in any way except by the same consciousness. So by making human identity consist in the same thing in which we place personal identity, there will be no difficulty in allowing the same man to be the same person. But then those who place human identity in consciousness only, and not in something else, must consider how they will make the infant Socrates the same man as Socrates after the resurrection.

Some people think one thing makes a man, and consequently the same individual man, and others another, and perhaps few agree on it. But whatever it is, we can place personal identity in nothing but consciousness (which alone makes what we call self) without involving ourselves in great absurdities.

But is not a man the same person drunk and sober? Otherwise why is he punished for a deed he commits while drunk, even though he is never af-

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afterwards conscious of it? Just as much the same person as a man that walks, and does other things in his sleep, is the same person, and is answerable for any mischief he shall do in it. Human laws punish both, with a justice suitable to their way of knowledge; because in these cases they cannot distinguish certainly what is real, what counterfeit: and so the ignorance in drunkenness or sleep is not admitted as a plea.

For though punishment be annexed to personality, and personality to consciousness, and the drunkard perhaps be not conscious of what he did; yet human judicatures justly punish him; because the fact is proved against him, but want of consciousness cannot be proved for him. But in the great day, wherein the secrets of all hearts shall be laid open, it may be reasonable to think no one shall be made to answer for what he knows nothing of, but shall receive his doom, his conscience accusing or excusing him.

2.27.23 *Consciousness alone makes self.*—Nothing but consciousness can unite remote existences into the same person; the identity of substance will not do it. For whatever substance there is, however framed, without consciousness there is no person and a carcass may be a person, as well as any sort of substance be so without consciousness.

Could we suppose two distinct incommunicable consciousnesses acting the same body, the one constantly by day, the other by night; and, on the other side, the same consciousness acting by intervals, two distinct bodies: I ask, in the first case, whether the day and the night man would not be two as distinct persons as Socrates and Plato? And, whether, in the second case, there would not be one person in two distinct bodies, as much as one man is the same in two distinct clothings?

Nor is it at all material to say, that this same, and this distinct consciousness, in the cases above mentioned, is owing to the same, and distinct immaterial substances, bringing it with them to those bodies; which, whether true or no, alters not the case; since it is evident the personal identity would equally be determined by the consciousness, whether that consciousness were

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terwards conscious of it? He is just as much the same person as a man who walks and does other things in his sleep is the same person, and is answerable for any harm he does in it. Human laws punish both, with a justice suited to their way of knowing, because in these cases they cannot tell for certain what is real and what is faked. So ignorance in drunkenness or sleep is not admitted as a plea.

For punishment is attached to personality, and personality to consciousness, and the drunkard perhaps is not conscious of what he did. Even so, human courts justly punish him, because the deed is proved against him, but lack of consciousness cannot be proved for him. But on the great day, when the secrets of all hearts will be laid open, it may be reasonable to think that no one will be made to answer for what he knows nothing of. Instead he will receive his sentence as his conscience accuses or excuses him.

Consciousness alone makes self.—Nothing but consciousness can unite existences remote in time into the same person; identity of substance will not do it. For whatever substance there is, however it is constituted, without consciousness there is no person. Otherwise a carcass could be a person, just as well as any sort of substance could be one without consciousness.

Suppose two distinct consciousnesses that cannot communicate with each other were to act the same body, one constantly by day, the other by night. And suppose, on the other hand, that the same consciousness were to act two distinct bodies at intervals. I ask, in the first case, whether the day-man and the night-man would not be two persons as distinct as Socrates and Plato? And in the second case, whether there would not be one person in two distinct bodies, just as one man is the same in two different sets of clothes?

Nor does it matter at all to say that, in the cases just mentioned, this same consciousness and this distinct consciousness are owing to the same and to distinct immaterial substances, which bring it with them into those bodies. Whether that is true or not, it does not change the case. For it is evident that personal identity would equally be determined by the consciousness, whether that con-

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annexed to some individual immaterial substance or no.

For granting that the thinking substance in man must be necessarily supposed immaterial, it is evident that immaterial thinking thing may sometimes part with its past consciousness, and be restored to it again, as appears in the forgetfulness men often have of their past actions: and the mind many times recovers the memory of a past consciousness which it had lost for twenty years together. Make these intervals of memory and forgetfulness to take their turns regularly by day and night, and you have two persons with the same immaterial spirit, as much as in the former instance, two persons with the same body.

So that self is not determined by identity or diversity of substance, which it cannot be sure of, but only by identity of consciousness.

2.27.24 Indeed it may conceive the substance, whereof it is now made up, to have existed formerly, united in the same conscious being: but consciousness removed, that substance is no more itself, or makes no more a part of it, than any other substance; as is evident in the instance we have already given of a limb cut off, of whose heat, or cold, or other affections, having no longer any consciousness, it is no more of a man's self than any other matter of the universe.

In like manner it will be in reference to any immaterial substance, which is void of that consciousness whereby I am myself to myself: if there be any part of its existence which I cannot upon recollection join with that present consciousness, whereby I am now my self, it is in that part of its existence no more myself than any other immaterial being. For whatsoever any substance has thought or done, which I cannot recollect, and by my consciousness make my own thought and action, it will no more belong to me, whether a part of me thought or did it, than if it had been thought or done by any other immaterial being any where existing.

2.27.25 I agree, the more probable opinion is, that this consciousness is annexed to, and the affection of, one individual immaterial substance.

But let men, according to their diverse hypotheses, resolve of that as they please: this

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sciousness were attached to some individual immaterial substance or not.

For grant that the thinking substance in man must necessarily be supposed immaterial. It is still evident that this immaterial thinking thing may sometimes lose its past consciousness and have it restored again. This appears in the way men often forget their past actions, and the mind many times recovers the memory of a past consciousness it had lost for twenty years at a stretch. Make these intervals of memory and forgetfulness take turns regularly by day and night, and you have two persons with the same immaterial spirit. That is just as in the former example, where you had two persons with the same body.

So self is not determined by identity or diversity of substance, which it cannot be sure of, but only by identity of consciousness.

Indeed, it may conceive that the substance it is now made up of existed before, united in the same conscious being. But take away consciousness, and that substance is no more itself, and no more a part of it, than any other substance is. This is evident in the example we have already given of a limb cut off. Since we no longer have any consciousness of its heat or cold or other affections, it is no more part of a man’s self than any other matter in the universe.

It will be the same with any immaterial substance that lacks the consciousness by which I am myself to myself. There may be some part of its existence that I cannot, on recollection, join with the present consciousness by which I am now myself. In that part of its existence it is no more myself than any other immaterial being is. For suppose some substance has thought or done something that I cannot recollect, and by my consciousness make my own thought and action. That thought or deed will no more belong to me, even if a part of me thought or did it, than if it had been thought or done by any other immaterial being existing anywhere.

I agree that the more probable opinion is that this consciousness is attached to one individual immaterial substance, and is an affection of it.

But let men settle that as they please, according to their various hypotheses. Every intelligent being

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every intelligent being, sensible of happiness or misery, must grant, that there is something that is himself, that he is concerned for, and would have happy; that this self has existed in a continued duration more than one instant, and therefore it is possible may exist, as it has done, months and years to come, without any certain bounds to be set to its duration; and may be the same self, by the same consciousness, continued on for the future.

And thus, by his consciousness, he finds himself to be the same self which did such or such an action some years since, by which he comes to be happy or miserable now. In all which account of self, the same numerical substance is not considered as making the same self; but the same continued consciousness, in which several substances may have been united, and again separated from it; which, whilst they continued in a vital union with that wherein this consciousness then resided, made a part of that same self.

Thus any part of our bodies, vitally united to that which is conscious in us, makes a part of ourselves: but upon separation from the vital union, by which that consciousness is communicated, that which a moment since was part of ourselves is now no more so than a part of another man's self is part of me; and it is not impossible but in a short time may become a real part of another person. And so we have the same numerical substance become a part of two different persons, and the same person preserved under the change of various substances.

Could we suppose any spirit wholly stripped of all its memory or consciousness of past actions, as we find our minds always are of a great part of ours, and sometimes of them all, the union or separation of such a spiritual substance would make no variation of personal identity, any more than that of any particle of matter does. Any substance vitally united to the present thinking being is a part of that very same self which now is: any thing united to it by a consciousness of former actions makes also a part of the same self, which is the same both then and now.

2.27.26 *Person, a forensic term.*—Person, as I take it, is the name for this self. Wherever a man finds what he calls himself, there I think another may say is the

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capable of happiness or misery must grant this much. There is something that is himself, which he is concerned for and wants to be happy. This self has existed in a continued duration of more than one instant, and therefore it may possibly exist, as it has done, for months and years to come, with no fixed limits to be set to its duration. And it may be the same self, by the same consciousness carried on into the future.

And so, by his consciousness, he finds himself to be the same self that did this or that action some years ago, by which he comes to be happy or miserable now. In this whole account of self, it is not the same numerical substance that is considered as making the same self, but the same continued consciousness. Several substances may have been united to it and then separated from it again. While they continued in a vital union with that in which this consciousness then resided, they made a part of that same self.

Thus any part of our bodies that is vitally united to what is conscious in us makes a part of ourselves. But suppose it is separated from the vital union by which that consciousness is communicated. Then what a moment ago was part of ourselves is now no more so than a part of another man's self is part of me. And it is not impossible that in a short time it may become a real part of another person. So we have the same numerical substance becoming a part of two different persons, and the same person preserved through a change of various substances.

Suppose some spirit were wholly stripped of all its memory or consciousness of past actions, as we find our minds always are of a great part of ours, and sometimes of all of them. Then the union or separation of such a spiritual substance would make no more difference to personal identity than that of any particle of matter does. Any substance vitally united to the present thinking being is a part of that very same self which now exists. Anything united to it by a consciousness of former actions also makes a part of the same self, which is the same both then and now.

Person, a forensic term.—Person, as I take it, is the name for this self. Wherever a man finds what he calls himself, there, I think, another may say is the

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same person. It is a forensic term appropriating actions and their merit; and so belongs only to intelligent agents capable of a law, and happiness and misery.

This personality extends itself beyond present existence to what is past only by consciousness, whereby it becomes concerned and accountable, owns and imputes to itself past actions, just upon the same ground, and for the same reason that it does the present; all which is founded in a concern for happiness, the unavoidable concomitant of consciousness; that which is conscious of pleasure and pain desiring that the self that is conscious should be happy. And therefore whatever past actions it cannot reconcile or appropriate to that present self by consciousness, it can be no more concerned in than if they had never been done: and to receive pleasure or pain, i.

e. reward or punishment, on the account of any such action, is all one as to be made happy or miserable in its first being, without any demerit at all. For supposing a man punished now for what he had done in another life, whereof he could be made to have no consciousness at all, what difference is there between that punishment, and being created miserable?

And therefore, conformable to this, the apostle tells us, that at the great day, when every one shall "receive according to his doings, the secrets of all hearts shall be laid open." The sentence shall be justified by the consciousness all persons shall have, that they themselves, in what body soever they appear, or what substances soever that consciousness adheres to, are the same that committed those actions, and deserve that punishment for them.

2.27.27 I am apt enough to think I have, in treating of this subject, made some suppositions that will look strange to some readers, and possibly they are so in themselves. But yet, I think, they are such as are pardonable in this ignorance we are in of the nature of that thinking thing that is in us, and which we look on as ourselves.

Did we know what it was, or how it was tied to a certain system of fleeting animal spirits; or

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same person. It is a forensic term, assigning actions and their merit. And so it belongs only to intelligent agents capable of a law, and of happiness and misery.[24]

This personality extends beyond present existence to what is past only by consciousness. By consciousness it becomes concerned and accountable, and owns and imputes past actions to itself, on just the same ground and for the same reason as it does present ones. All this is founded in a concern for happiness, the unavoidable companion of consciousness: whatever is conscious of pleasure and pain desires that the self that is conscious should be happy. Therefore it can be no more concerned in past actions it cannot reconcile with that present self, or appropriate to it, by consciousness than if they had never been done. And to receive pleasure or pain—that is,

reward or punishment—on account of any such action is the same as being made happy or miserable in its first existence, without any demerit at all. For suppose a man were punished now for what he had done in another life, of which he could not be made to have any consciousness at all. What difference is there between that punishment and being created miserable?

And so, in line with this, the apostle tells us that on the great day, when everyone will "receive according to his doings, the secrets of all hearts shall be laid open." The sentence will be justified by the consciousness all persons will have that they themselves are the same who committed those actions and deserve that punishment for them. That holds in whatever body they appear, and whatever substances that consciousness adheres to.[25]

I am quite ready to think that in treating this subject I have made some suppositions that will look strange to some readers, and perhaps they really are strange. Still, I think they are pardonable, given how ignorant we are of the nature of the thinking thing in us, which we regard as ourselves.

Suppose we knew what it was, or how it was tied to a certain system of fleeting animal spirits. Sup-

24 "Forensic" here means belonging to law courts and legal judgment: the concept of a person is used to assign responsibility.
25 The apostle Paul; Locke combines phrases from 2 Corinthians 5:10 and 1 Corinthians 4:5 (compare Romans 2:16).

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whether it could or could not perform its operations of thinking and memory out of a body organized as ours is; and whether it has pleased God that no one such spirit shall ever be united to any but one such body, upon the right constitution of whose organs its memory should depend; we might see the absurdity of some of those suppositions I have made.

But taking, as we ordinarily now do, (in the dark concerning these matters) the soul of a man for an immaterial substance, independent from matter, and indifferent alike to it all, there can from the nature of things be no absurdity at all to suppose, that the same soul may, at different times, be united to different bodies, and with them make up, for that time, one man: as well as we suppose a part of a sheep's body yesterday should be a part of a man's body to-morrow, and in that union make a vital part of Melibœus himself, as well as it did of his ram.

2.27.28 *The difficulty from ill use of names.*—To conclude: whatever substance begins to exist, it must, during its existence, necessarily be the same: whatever compositions of substances begin to exist during the union of those substances, the concrete must be the same: whatsoever mode begins to exist, during its existence it is the same: and so if the composition be of distinct substances and different modes, the same rule holds. Whereby it will appear, that the difficulty or obscurity that has been about this matter, rather rises from the names ill used, than from any obscurity in things themselves.

For whatever makes the specific idea to which the name is applied, if that idea be steadily kept to, the distinction of any thing into the same, and divers, will easily be conceived, and there can arise no doubt about it.

2.27.29 *Continued existence makes identity.*—For supposing a rational spirit be the idea of a man, it is easy to know what is the same man, viz. the same spirit, whether separate or in a body, will be the same man. Supposing a rational spirit vitally united to a body of a certain conformation of parts to make a man; whilst that rational spirit, with that vital conformation of parts, though continued in a

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pose we knew whether it could or could not perform its operations of thinking and memory outside a body organized as ours is. And suppose we knew whether it has pleased God that no such spirit shall ever be united to more than one such body, on the right constitution of whose organs its memory would depend. Then we might see the absurdity of some of the suppositions I have made.

But at present, being in the dark about these matters, we ordinarily take the soul of a man for an immaterial substance, independent of matter and equally indifferent to all of it. On that view, the nature of things makes it no absurdity at all to suppose that the same soul may be united to different bodies at different times, and with them make up one man for that time. We already suppose that part of a sheep's body yesterday might be part of a man's body tomorrow. In that union it would make a vital part of Meliboeus himself, as it did of his ram.[26]

The difficulty from ill use of names.—To conclude: whatever substance begins to exist must necessarily be the same during its existence. Whatever compositions of substances begin to exist, the concrete thing must be the same during the union of those substances. Whatever mode begins to exist is the same during its existence. And so, if the composition is of distinct substances and different modes, the same rule holds. From this it will appear that the difficulty or obscurity there has been about this matter arises from names badly used rather than from any obscurity in the things themselves.

For whatever makes up the specific idea to which the name is applied, the distinction of anything into the same and different will be easily conceived, as long as that idea is steadily kept to. No doubt can then arise about it.

Continued existence makes identity.—For suppose a rational spirit is the idea of a man. Then it is easy to know what the same man is: namely, the same spirit, whether separate or in a body, will be the same man. Suppose instead that a rational spirit vitally united to a body with a certain structure of parts makes a man. Then that rational spirit, with that vital structure of parts, may be continued in a

26 Meliboeus is a shepherd in Virgil's *Eclogues*.

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fleeting successive body, remains, it will be the same.

But if to any one the idea of a man be but the vital union of parts in a certain shape: as long as that vital union and shape remain, in a concrete no otherwise the same, but by a continued succession of fleeting particles, it will be the same man. For whatever be the composition whereof the complex idea is made, whenever existence makes it one particular thing under any denomination, the same existence, continued, preserves it the same individual under the same denomination.

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fleeting, successive body. As long as it remains, it will be the same man.

But for someone else the idea of a man may be only the vital union of parts in a certain shape. Then as long as that vital union and shape remain, it will be the same man, even in a concrete thing that is the same only by a continued succession of fleeting particles. For whatever the composition of the complex idea, whenever existence makes it one particular thing under any denomination, the same existence continued keeps it the same individual under the same denomination.

OTHER RELATIONS

Locke surveys proportional, natural, instituted and moral relations, and the three laws by which actions are judged.

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2.28.1 *Proportional.*—Besides the before-mentioned occasions of time, place, and causality of comparing, or referring things one to another, there are, as I have said, infinite others, some whereof I shall mention.

First, The first I shall name, is some one simple idea; which being capable of parts or degrees, affords an occasion of comparing the subjects wherein it is to one another, in respect of that simple idea, *v. g.* whiter, sweeter, bigger, equal, more, &c. These relations depending on the equality and excess of the same simple idea, in several subjects, may be called, if one will, proportional: and that these are only conversant about those simple ideas received from sensation or reflection, is so evident, that nothing need be said to evince it.

2.28.2 *Natural.*—Secondly, Another occasion of comparing things together, or considering one thing, so as to include in that consideration some other thing, is the circumstance of their origin or beginning; which being not afterwards to be altered, make the relations depending thereon as lasting as the subjects to which they belong; *v. g.* father and son, brothers, cousin-germans, &c. which have their relations by one community of blood, wherein they partake in several degrees; countrymen, *i. e.* those who were born in the same country, or tract of ground; and these I call natural relations; wherein we may observe, that mankind have fitted their notions and words to

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Proportional.—Besides the occasions already mentioned for comparing or referring things to one another, namely time, place, and causality, there are, as I have said, infinitely many others. I shall mention some of them.

First, the first I shall name is some one simple idea which is capable of parts or degrees. It gives occasion to compare the subjects it is in with one another in respect of that simple idea, for example, whiter, sweeter, bigger, equal, more, and so on. These relations depend on the equality and excess of the same simple idea in several subjects, and may be called proportional, if one likes. And it is so evident that they concern only simple ideas received from sensation or reflection that nothing need be said to prove it.

Natural.—Secondly, another occasion of comparing things together, or of considering one thing so as to include some other thing in that consideration, is the circumstance of their origin or beginning. Since this cannot afterwards be altered, it makes the relations that depend on it as lasting as the subjects to which they belong. Examples are father and son, brothers, first cousins, and so on, who have their relations through one shared blood, which they share in various degrees. Another example is countrymen, that is, those who were born in the same country or tract of land. These I call natural relations. In them we may ob-

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the use of common life, and not to the truth and extent of things.

For it is certain, that in reality the relation is the same betwixt the begetter and the begotten, in the several races of other animals as well as men: but yet it is seldom said, this bull is the grandfather of such a calf; or that two pigeons are cousin-germans. It is very convenient, that by distinct names these relations should be observed, and marked out in mankind; there being occasion, both in laws, and other communications one with another, to mention and take notice of men under these relations: from whence also arise the obligations of several duties among men.

Whereas in brutes, men having very little or no cause to mind these relations, they have not thought fit to give them distinct and peculiar names. This, by the way, may give us some light into the different state and growth of languages; which, being suited only to the convenience of communication, are proportioned to the notions men have, and the commerce of thoughts familiar among them; and not to the reality or extent of things, nor to the various respects might be found among them, nor the different abstract considerations might be framed about them.

Where they had no philosophical notions, there they had no terms to express them and it is no wonder men should have framed no names for those things they found no occasion to discourse of. From whence it is easy to imagine, why, as in some countries, they may not have so much as the name for a horse; and in others, where they are more careful of the pedigrees of their horses than of their own, that there they may have not only names for particular horses, but also of their several relations of kindred one to another.

2.28.3 *Instituted.*—Thirdly, Sometimes the foundation of considering things, with reference to one another, is some act whereby any one comes by a moral right, power, or obligation to do something. Thus a general is one that hath power to command an army: and an army under a general is a collection of armed men obliged to obey one man. A citizen, or a burgher, is one who has a right to certain privileges in this or that place.

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serve that mankind has fitted its notions and words to the uses of common life, and not to the truth and extent of things.

For it is certain that in reality the relation between begetter and begotten is the same in the various races of other animals as in men. Yet it is seldom said that this bull is the grandfather of such-and-such a calf, or that two pigeons are first cousins. It is very convenient that among mankind these relations should be noted and marked out by distinct names. There is occasion, both in laws and in other dealings with one another, to mention and take notice of men under these relations. From them also arise the obligations of various duties among men.

In animals, by contrast, men have little or no reason to pay attention to these relations, so they have not thought fit to give them distinct and special names. This, incidentally, may throw some light on the different state and growth of languages. Languages are suited only to the convenience of communication. So they are proportioned to the notions men have and the exchange of thoughts familiar among them. They are not proportioned to the reality or extent of things, nor to the various respects that might be found among things, nor to the different abstract considerations that might be framed about them.

Where people had no philosophical notions, they had no terms to express them. And it is no wonder that men should have framed no names for things they found no occasion to talk about. From this it is easy to imagine why in some countries they may not have so much as a name for a horse. In others they are more careful of their horses' pedigrees than of their own, and there they may have names not only for particular horses but also for their various relations of kinship to one another.

Instituted.—Thirdly, sometimes the basis for considering things in reference to one another is some act by which someone comes to have a moral right, power, or obligation to do something. Thus a general is one who has power to command an army, and an army under a general is a collection of armed men obliged to obey one man. A citizen, or a burgher, is one who has a right to certain privileges in this or that place.

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All this sort, depending upon men's wills, or agreement in society, I call instituted, or voluntary; and may be distinguished from the natural, in that they are most, if not all of them, some way or other alterable, and separable from the persons to whom they have sometimes belonged, though neither of the substances, so related, be destroyed. Now, though these are all reciprocal, as well as the rest, and contain in them a reference of two things one to the other; yet, because one of the two things often wants a relative name, importing that reference, men usually take no notice of it, and the relation is commonly overlooked: v.

g. a patron and client are easily allowed to be relations, but a constable or dictator are not so readily, at first hearing, considered as such; because there is no peculiar name for those who are under the command of a dictator, or constable, expressing a relation to either of them; though it be certain, that either of them hath a certain power over some others; and so is so far related to them, as well as a patron is to his client, or general to his army.

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All relations of this sort depend on men's wills or on agreement in society, and I call them instituted, or voluntary. They may be distinguished from the natural in that most, if not all, of them can in some way be altered and separated from the persons to whom they have at times belonged, even though neither of the substances so related is destroyed. Now, these are all reciprocal like the rest, and contain a reference of two things to each other. Still, one of the two things often lacks a relative name expressing that reference, so men usually take no notice of it, and the relation is commonly overlooked. For example,

a patron and a client are readily accepted as relations, but a constable or a dictator are not so readily considered such at first hearing. That is because there is no special name for those under the command of a dictator or a constable that expresses a relation to either of them. Yet it is certain that each of them has a certain power over some others. To that extent each is related to them, just as a patron is to his client, or a general to his army.

MORAL RELATIONS AND THREE LAWS

Locke distinguishes the divine law, the civil law and the law of opinion, the measures of sin, crime and vice.

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2.28.4 *Moral.*—Fourthly, There is another sort of relation, which is the conformity, or disagreement, men's voluntary actions have to a rule to which they are referred, and by which they are judged of; which, I think, may be called moral relation, as being that which denominates our moral actions, and deserves well to be examined; there being no part of knowledge wherein we should be more careful to get determined ideas, and avoid, as much as may be, obscurity and confusion. Human actions, when with their various ends, objects, manners, and circumstances, they are framed into distinct complex ideas, are, as has been shown, so many mixed modes, a great part whereof have names annexed to them.

Thus, supposing gratitude to be a readiness to acknowledge and return kindness received; polygamy to be the having more wives than one at once; when we frame these notions thus in our minds, we have there so many determined ideas

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Moral.—Fourthly, there is another sort of relation. It is the conformity or disagreement that men's voluntary actions have with a rule to which they are referred and by which they are judged. This, I think, may be called moral relation, since it is what gives our moral actions their names. It well deserves to be examined, since there is no part of knowledge in which we should be more careful to get determinate ideas and to avoid obscurity and confusion as far as possible. Human actions, when they are framed with their various ends, objects, manners, and circumstances into distinct complex ideas, are, as has been shown, so many mixed modes. A large part of these have names attached to them.

Thus, suppose gratitude is a readiness to acknowledge and return kindness received, and polygamy is having more than one wife at once. When we frame these notions in our minds this way, we have so many determinate ideas of mixed modes.

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of mixed modes. But this is not all that concerns our actions; it is not enough to have determined ideas of them, and to know what names belong to such and such combinations of ideas. We have a farther and greater concernment, and that is, to know whether such actions, so made up, are morally good or bad.

2.28.5 *Moral good and evil.*—Good and evil, as hath been shown, B. II. Ch. 20, Sect. 2, and Ch. 21, Sect. 42, are nothing but pleasure or pain, or that which occasions or procures pleasure or pain to us. Moral good and evil then is only the conformity or disagreement of our voluntary actions to some law, whereby good or evil is drawn on us by the will and power of the law-maker; which good and evil, pleasure or pain, attending our observance, or breach of the law, by the decree of the law-maker, is that we call reward and punishment.

2.28.6 *Moral rules.*—Of these moral rules, or laws, to which men generally refer, and by which they judge of the rectitude or pravity of their actions, there seem to me to be three sorts, with their three different enforcements, or rewards and punishments. For since it would be utterly in vain to suppose a rule set to the free actions of man, without annexing to it some enforcement of good and evil to determine his will, we must, wherever we suppose a law, suppose also some reward or punishment annexed to that law.

It would be in vain for one intelligent being to set a rule to the actions of another, if he had it not in his power to reward the compliance with, and punish deviation from his rule, by some good and evil, that is not the natural product and consequence of the action itself. For that being a natural convenience, or inconvenience, would operate of itself without a law. This, if I mistake not, is the true nature of all law, properly so called.

2.28.7 *Laws.*—The laws that men generally refer their actions to, to judge of their rectitude, or obliquity, seem to me to be these three. 1. The divine law. 2. The civil law. 3. The law of opinion or reputation, if I may so call it. By the relation they bear to the first of these, men judge whether their actions are sins or duties; by the second, whether they be criminal or innocent; and by the third, whether they be virtues or vices.

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But this is not all that concerns our actions. It is not enough to have determinate ideas of them and to know what names belong to such and such combinations of ideas. We have a further and greater concern, and that is to know whether such actions, so made up, are morally good or bad.

Moral good and evil.—Good and evil, as has been shown (Book II, Chapter 20, Section 2, and Chapter 21, Section 42), are nothing but pleasure or pain, or what occasions or procures pleasure or pain for us. Moral good and evil, then, is only the conformity or disagreement of our voluntary actions with some law, by which good or evil is brought upon us by the will and power of the lawmaker. By the lawmaker's decree, this good and evil, pleasure or pain, attends our observance or breach of the law, and it is what we call reward and punishment.

Moral rules.—Men generally refer their actions to moral rules or laws, and judge by them whether those actions are right or depraved. Of these rules there seem to me to be three sorts, with their three different enforcements, or rewards and punishments. It would be utterly pointless to suppose a rule set to the free actions of man without attaching to it some enforcement of good and evil to determine his will. So wherever we suppose a law, we must also suppose some reward or punishment attached to that law.

It would be pointless for one intelligent being to set a rule for the actions of another unless he had it in his power to reward compliance with his rule, and punish deviation from it, by some good and evil. That good and evil must not be the natural product and consequence of the action itself. For that, being a natural advantage or disadvantage, would operate of itself without a law. This, if I am not mistaken, is the true nature of all law, properly so called.

Laws.—The laws to which men generally refer their actions, to judge whether they are right or wrong, seem to me to be these three: 1. The divine law. 2. The civil law. 3. The law of opinion or reputation, if I may call it that. By the relation their actions bear to the first of these, men judge whether they are sins or duties; by the second, whether they are criminal or innocent; and by the third, whether they are virtues or vices.

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2.28.8 *Divine law, the measure of sin and duty.*—First, The divine law, whereby I mean that law which God has set to the actions of men, whether promulgated to them by the light of nature, or the voice of revelation. That God has given a rule whereby men should govern themselves, I think there is nobody so brutish as to deny. He has a right to do it; we are his creatures: he has goodness and wisdom to direct our actions to that which is best; and he has power to enforce it by rewards and punishments, of infinite weight and duration, in another life; for nobody can take us out of his hands.

This is the only true touchstone of moral rectitude, and by comparing them to this law it is that men judge of the most considerable moral good or evil of their actions; that is, whether as duties or sins, they are like to procure them happiness or misery from the hand of the Almighty.

2.28.9 *Civil law, the measure of crimes and innocence.*—Secondly, the civil law, the rule set by the commonwealth to the actions of those who belong to it, is another rule, to which men refer their actions, to judge whether they be criminal or no. This law nobody overlooks; the rewards and punishments that enforce it being ready at hand, and suitable to the power that makes it; which is the force of the commonwealth, engaged to protect the lives, liberties, and possessions of those who live according to its laws, and has power to take away life, liberty, or goods, from him who disobeys: which is the punishment of offences committed against this law.

2.28.10 *Philosophical law, the measure of virtue and vice.*—Thirdly, the law of opinion or reputation. Virtue and vice are names pretended and supposed every where to stand for actions in their own nature right and wrong; and as far as they really are so applied, they so far are coincident with the divine law above mentioned. But yet, whatever is pretended, this is visible, that these names, virtue and vice, in the particular instances of their application, through the several nations and societies of men in the world, are constantly attributed only to such actions, as in each country and society are in reputation or discredit.

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Divine law, the measure of sin and duty.—First, the divine law. By this I mean the law that God has set to the actions of men, whether made known to them by the light of nature or by the voice of revelation. I think there is nobody so brutish as to deny that God has given a rule by which men should govern themselves. He has a right to do it, since we are his creatures. He has the goodness and wisdom to direct our actions to what is best. And he has the power to enforce it by rewards and punishments of infinite weight and duration in another life, for nobody can take us out of his hands.

This is the only true touchstone of moral rectitude. It is by comparing their actions to this law that men judge of the most considerable moral good or evil in them. That is, they judge whether, as duties or sins, those actions are likely to bring them happiness or misery from the hand of the Almighty.

Civil law, the measure of crimes and innocence.—Secondly, the civil law, the rule set by the commonwealth to the actions of those who belong to it, is another rule to which men refer their actions, to judge whether they are criminal or not. Nobody overlooks this law, since the rewards and punishments that enforce it are ready at hand and suited to the power that makes it. That power is the force of the commonwealth. It is engaged to protect the lives, liberties, and possessions of those who live according to its laws. It also has power to take away life, liberty, or goods from anyone who disobeys, and that is the punishment for offenses committed against this law.

Philosophical law, the measure of virtue and vice.—Thirdly, the law of opinion or reputation. Virtue and vice are names that are claimed and supposed everywhere to stand for actions right and wrong in their own nature. As far as they really are applied that way, they coincide with the divine law mentioned above. But whatever is claimed, this much is plain about how these names are applied in particular cases throughout the various nations and societies of men in the world. Virtue and vice are constantly attributed only to such actions as are in good or bad repute in each country and society.

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Nor is it to be thought strange, that men every where should give the name of virtue to those actions, which among them are judged praise-worthy; and call that vice, which they account blameable; since otherwise they would condemn themselves if they should think any thing right, to which they allowed not commendation; any thing wrong which they let pass without blame.

Thus the measure of what is every where called and esteemed virtue and vice, is the approbation or dislike, praise or blame, which by a secret and tacit consent establishes itself in the several societies, tribes, and clubs of men in the world; whereby several actions come to find credit or disgrace among them according to the judgment, maxims, or fashion of that place.

For though men, uniting into politic societies, have resigned up to the public the disposing of all their force, so that they cannot employ it against any fellow-citizens any farther than the law of the country directs; yet they retain still the power of thinking well or ill, approving or disapproving of the actions of those whom they live among, and converse with: and by this approbation and dislike, they establish among themselves what they will call virtue and vice.

2.28.11 *The measure that men commonly apply to determine what they call virtue and vice.*—That this is the common measure of virtue and vice will appear to any one who considers, that though that passes for vice in one country which is counted a virtue, or at least not vice in another, yet, every where, virtue and praise, vice and blame, go together. Virtue is every where that which is thought praise-worthy; and nothing else but that which has the allowance of public esteem, is called virtue. Virtue and praise are so united, that they are often called by the same name. *Sunt sua præmia laudi*, says Virgil; and so Cicero, *Nihil habet natura præstantius, quam honestatem, quam laudem, quam dignitatem, quam decus*; which, he tells us, are all names for the same thing, Tusc. lib. ii.

This is the language of the heathen philosophers, who well understood wherein their notions of virtue and vice consisted, and though perhaps by the different temper, education, fashion, maxims,

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Nor should it be thought strange that men everywhere give the name of virtue to those actions which they judge praiseworthy, and call vice what they consider blameworthy. Otherwise they would be condemning themselves, if they thought anything right which they did not commend, or anything wrong which they let pass without blame.

Thus the measure of what is everywhere called and regarded as virtue and vice is approval or dislike, praise or blame. This establishes itself by a secret and tacit consent in the various societies, tribes, and clubs of men in the world. By this, various actions come to be in credit or disgrace among them, according to the judgment, maxims, or fashion of that place.

For in uniting into political societies, men have handed over to the public the disposal of all their force, so that they cannot use it against any fellow citizen beyond what the law of the country directs. Still, they keep the power of thinking well or ill of the actions of those they live among and associate with, and of approving or disapproving of them. And by this approval and dislike they establish among themselves what they will call virtue and vice.

The measure that men commonly apply to determine what they call virtue and vice.—That this is the common measure of virtue and vice will be clear to anyone who considers the following. What passes for vice in one country is counted a virtue, or at least not a vice, in another. Yet everywhere virtue and praise, vice and blame, go together. Virtue is everywhere what is thought praiseworthy, and nothing is called virtue except what has the approval of public esteem. Virtue and praise are so united that they are often called by the same name. *Sunt sua præmia laudi*, says Virgil. And so Cicero says, *Nihil habet natura præstantius, quam honestatem, quam laudem, quam dignitatem, quam decus*, and he tells us these are all names for the same thing (*Tusculan Disputations*, Book II).[27]

This is the language of the pagan philosophers, who understood well what their notions of virtue and vice consisted in. Men of different sorts differ

27 Virgil, *Aeneid* 1.461: "Praise has its own rewards." Cicero, *Tusculan Disputations* 2.46: "Nature has nothing more excellent than honor, than praise, than dignity, than distinction."

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or interests of different sorts of men, it fell out that what was thought praise-worthy in one place, escaped not censure in another; and so in different societies, virtues and vices were changed; yet, as to the main, they for the most part kept the same every where.

For since nothing can be more natural than to encourage with esteem and reputation that wherein every one finds his advantage, and to blame and discountenance the contrary; it is no wonder that esteem and discredit, virtue and vice, should in a great measure every where correspond with the unchangeable rule of right and wrong, which the law of God hath established: there being nothing that so directly and visibly secures and advances the general good of mankind in this world, as obedience to the laws he has set them; and nothing that breeds such mischiefs and confusion, as the neglect of them.

And, therefore, men, without renouncing all sense and reason, and their own interest, which they are so constantly true to, could not generally mistake in placing their commendation and blame on that side that really deserved it not. Nay, even those men whose practice was otherwise, failed not to give their approbation right; few being depraved to that degree, as not to condemn, at least in others, the faults they themselves were guilty of: whereby, even in the corruption of manners, the true boundaries of the law of nature, which ought to be the rule of virtue and vice, were pretty well preserved.

So that even the exhortations of inspired teachers have not feared to appeal to common repute: "Whatsoever is lovely, whatsoever is of good report, if there be any virtue, if there be any praise," &c. Phil. iv. 8.

2.28.12 *Its enforcements, commendation, and discredit.*—If any one shall imagine that I have forgot my own notion of a law, when I make the law whereby men judge of virtue and vice, to be nothing else but the consent of private men, who have not authority enough to make a law; especially wanting that which is so necessary and essential to a law, a power to enforce it: I think I may say, that he who imagines commendation and disgrace not to be strong motives to men, to accommodate themselves to the opinions and

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in temperament, education, fashion, maxims, and interests. Perhaps because of this, what was thought praiseworthy in one place did not escape censure in another, and so virtues and vices shifted in different societies. Still, in the main, they mostly stayed the same everywhere.

For nothing can be more natural than to encourage with esteem and reputation whatever everyone finds to his advantage, and to blame and frown on the contrary. So it is no wonder that esteem and discredit, virtue and vice, should to a great extent everywhere correspond with the unchangeable rule of right and wrong which the law of God has established. Nothing so directly and visibly secures and advances the general good of mankind in this world as obedience to the laws he has set them, and nothing breeds such harm and confusion as neglect of them.

Men are constantly true to their own interest. So unless they renounced all sense and reason and that interest, they could not generally be mistaken by putting their praise and blame on the side that did not really deserve it. Indeed, even men whose practice was otherwise did not fail to give their approval rightly. Few are so depraved as not to condemn, at least in others, the faults they themselves were guilty of. By this means, even amid the corruption of morals, the true boundaries of the law of nature, which ought to be the rule of virtue and vice, were fairly well preserved.

Even the exhortations of inspired teachers have not been afraid to appeal to common repute: “Whatsoever is lovely, whatsoever is of good report, if there be any virtue, if there be any praise,” etc. (Philippians 4:8).

Its enforcements, commendation, and discredit.—Someone may imagine that I have forgotten my own notion of a law. I make the law by which men judge of virtue and vice nothing but the consent of private men, who do not have enough authority to make a law. In particular, they lack what is so necessary and essential to a law: a power to enforce it. To him I think I may say this. Anyone who imagines that praise and disgrace are not strong motives for men seems to know little of the nature or history of mankind. They are strong motives for

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rules of those with whom they converse, seems little skilled in the nature or history of mankind: the greatest part whereof he shall find to govern themselves chiefly, if not solely, by this law of fashion; and so they do that which keeps them in reputation with their company, little regard the laws of God, or the magistrate.

The penalties that attend the breach of God's laws, some, nay perhaps most men, seldom seriously reflect on; and among those that do, many, whilst they break that law, entertain thoughts of future reconciliation, and making their peace for such breaches. And as to the punishments due from the laws of the commonwealth, they frequently flatter themselves with the hopes of impunity. But no man escapes the punishment of their censure and dislike, who offends against the fashion and opinion of the company he keeps, and would recommend himself to. Nor is there one of ten thousand, who is stiff and insensible enough to bear up under the constant dislike and condemnation of his own club.

He must be of a strange and unusual constitution, who can content himself to live in constant disgrace and disrepute with his own particular society. Solitude many men have sought, and been reconciled to: but nobody, that has the least thought or sense of a man about him, can live in society under the constant dislike and ill opinion of his familiars, and those he converses with. This is a burden too heavy for human sufferance; and he must be made of irreconcilable contradictions, who can take pleasure in company, and yet be insensible of contempt and disgrace from his companions.

2.28.13 *These three laws, the rules of moral good and evil.*— These three then, First, The law of God; Secondly, The law of politic societies; Thirdly, The law of fashion, or private censure, are those to which men variously compare their actions; and it is by their conformity to one of these laws that they take their measures, when they would judge of their moral rectitude, and denominate their actions good or bad.

2.28.14 *Morality is the relation of actions to these rules.*— Whether the rule, to which, as to a touchstone, we bring our voluntary actions, to examine them by, and try their goodness, and accordingly to name

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men to adapt themselves to the opinions and rules of those they associate with. He will find that the greater part of mankind govern themselves chiefly, if not solely, by this law of fashion. As long as they do what keeps them in good repute with their company, they pay little regard to the laws of God or of the magistrate.

Some men, perhaps most, seldom seriously reflect on the penalties that attend the breach of God's laws. Of those who do, many entertain thoughts of later reconciliation while they break that law, and of making their peace for such breaches. As for the punishments due under the laws of the commonwealth, they often flatter themselves with hopes of escaping them. But no man escapes the punishment of censure and dislike who offends against the fashion and opinion of the company he keeps and wants to recommend himself to. Nor is there one in ten thousand who is stiff and insensible enough to hold up under the constant dislike and condemnation of his own club.

He must be of a strange and unusual constitution who can content himself to live in constant disgrace and disrepute with his own particular society. Many men have sought solitude and been reconciled to it. But nobody who has the least thought or feeling of a man in him can live in society under the constant dislike and bad opinion of his intimates and those he associates with. This is a burden too heavy for human endurance. He must be made of irreconcilable contradictions who can take pleasure in company and yet be insensible to contempt and disgrace from his companions.

These three laws, the rules of moral good and evil.— These three, then, are the laws to which men variously compare their actions: first, the law of God; secondly, the law of political societies; thirdly, the law of fashion, or private censure. When men want to judge the moral rectitude of their actions and call them good or bad, they take their measures by the actions' conformity to one of these laws.

Morality is the relation of actions to these rules.—We bring our voluntary actions to a rule, as to a touchstone. We examine them by it, test their goodness, and name them accordingly, and the name is, as it

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them; which is, as it were, the mark of the value we set upon them: whether, I say, we take that rule from the fashion of the country, or the will of a lawmaker, the mind is easily able to observe the relation any action hath to it, and to judge whether the action agrees or disagrees with the rule; and so hath a notion of moral goodness or evil, which is either conformity or not conformity of any action to that rule: and therefore is often called moral rectitude.

This rule being nothing but a collection of several simple ideas, the conformity thereto is but so ordering the action, that the simple ideas belonging to it may correspond to those which the law requires. And thus we see how moral beings and notions are founded on, and terminated in, these simple ideas we have received from sensation or reflection. For example, let us consider the complex idea we signify by the word murder; and when we have taken it asunder, and examined all the particulars, we shall find them to amount to a collection of simple ideas derived from reflection or sensation, viz.

First, from reflection on the operations of our own minds, we have the ideas of willing, considering, purposing before hand, malice, or wishing ill to another; and also of life, or perception, and self-motion. Secondly, from sensation we have the collection of those simple sensible ideas which are to be found in a man, and of some action, whereby we put an end to perception and motion in a man; all which simple ideas are comprehended in the word murder.

This collection of simple ideas being found by me to agree or disagree with the esteem of the country I have been bred in, and to be held by most men there worthy praise or blame, I call the action virtuous or vicious: if I have the will of a supreme invisible Law-maker for my rule; then, as I suppose the action commanded or forbidden by God, I call it good or evil, sin or duty; and if I compare it to the civil law, the rule made by the legislative power of the country, I call it lawful or unlawful, a crime or no crime.

So that whencesoever we take the rule of moral actions, or by what standard soever we frame in our minds the ideas of virtues or vices, they consist only and are made up of collections of

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were, the mark of the value we set on them. We may take that rule from the fashion of the country or from the will of a lawmaker. Either way, the mind is easily able to observe the relation any action has to it and to judge whether the action agrees or disagrees with the rule. And so it has a notion of moral goodness or evil, which is either the conformity or the nonconformity of an action to that rule. This is therefore often called moral rectitude.

This rule is nothing but a collection of several simple ideas. So conformity to it is simply ordering the action so that the simple ideas belonging to it correspond to those the law requires. And thus we see how moral beings and notions are founded on, and end in, the simple ideas we have received from sensation or reflection. For example, let us consider the complex idea we signify by the word murder. When we have taken it apart and examined all the particulars, we shall find that they amount to a collection of simple ideas derived from reflection or sensation, namely:

First, from reflection on the operations of our own minds, we have the ideas of willing, considering, planning beforehand, and malice, or wishing ill to another. We also have the ideas of life, or perception, and self-motion. Secondly, from sensation we have the collection of those simple sensible ideas which are found in a man, and of some action by which we put an end to perception and motion in a man. All these simple ideas are included in the word murder.

I may find this collection of simple ideas to agree or disagree with the esteem of the country I was brought up in, and to be held by most people there worthy of praise or blame. Then I call the action virtuous or vicious. If I take the will of a supreme invisible Lawmaker as my rule, I suppose the action commanded or forbidden by God, and accordingly I call it good or evil, sin or duty. And if I compare it to the civil law, the rule made by the legislative power of the country, I call it lawful or unlawful, a crime or no crime.

So wherever we take the rule of moral actions from, and by whatever standard we frame the ideas of virtues or vices in our minds, those ideas consist only of collections of simple ideas, which

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simple ideas, which we originally received from sense or reflection, and their rectitude or obliquity consists in the agreement or disagreement with those patterns prescribed by some law.

2.28.15 To conceive rightly of moral actions, we must take notice of them under this twofold consideration. First, as they are in themselves each made up of such a collection of simple ideas. Thus drunkenness, or lying, signify such or such a collection of simple ideas, which I call mixed modes and in this sense they are as much positive absolute ideas as the drinking of a horse, or speaking of a parrot.

Secondly, our actions are considered as good, bad, or indifferent; and in this respect they are relative, it being their conformity to, or disagreement with, some rule that makes them to be regular or irregular, good or bad, and so as far as they are compared with a rule, and thereupon denominated, they come under relation. Thus, the challenging and fighting with a man, as it is a certain positive mode, or particular sort of action, by particular ideas, distinguished from all others, is called duelling, which when considered in relation to the law of God, will deserve the name sin; to the law of fashion, in some countries, valour and virtue; and to the municipal laws of some governments, a capital crime.

In this case, when the positive mode has one name, and another name as it stands in relation to the law, the distinction may as easily be observed as it is in substances, where one name, *v. g.* man, is used to signify the thing; another, *v. g.* father, to signify the relation.

2.28.16 *The denominations of actions often mislead us.*—But because very frequently the positive idea of the action, and its moral relation, are comprehended together under one name, and the same word made use of to express both the mode or action, and its moral rectitude or obliquity; therefore the relation itself is less taken notice of, and there is often no distinction made between the positive idea of the action, and the reference it has to a rule. By which confusion of these two distinct considerations under one term, those who yield too easily to the impressions of sounds, and are

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we originally received from sense or reflection. Their rightness or wrongness consists in their agreement or disagreement with the patterns prescribed by some law.

To conceive rightly of moral actions, we must consider them in this twofold way. First, we must consider them as they are in themselves, each made up of such a collection of simple ideas. Thus drunkenness or lying signifies such and such a collection of simple ideas, which I call mixed modes. In this sense they are just as much positive, absolute ideas as the drinking of a horse or the speaking of a parrot.

Secondly, our actions are considered as good, bad, or indifferent. In this respect they are relative, since it is their conformity to, or disagreement with, some rule that makes them regular or irregular, good or bad. So insofar as they are compared with a rule and named accordingly, they come under relation. Take challenging and fighting a man. As a certain positive mode, a particular sort of action distinguished from all others by particular ideas, it is called dueling. Considered in relation to the law of God, it will deserve the name sin. In relation to the law of fashion, in some countries, it will deserve the names valor and virtue. And in relation to the municipal laws of some governments, it will deserve the name of a capital crime.

In this case the positive mode has one name, and another name as it stands in relation to the law. Here the distinction can be observed as easily as it is in substances, where one name, for example, man, is used to signify the thing, and another, for example, father, to signify the relation.

The denominations of actions often mislead us.—But very often the positive idea of the action and its moral relation are included together under one name. The same word is used to express both the mode or action and its moral rightness or wrongness. Because of this, the relation itself is less noticed, and often no distinction is made between the positive idea of the action and the reference it has to a rule. Some people yield too easily to the impressions of sounds and are quick to take names for things. Through this confusion of two distinct considerations under one term, they are often misled in their judgment of actions.

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forward to take names for things, are often misled in their judgment of actions.

Thus the taking from another what is his, without his knowledge or allowance, is properly called stealing; but that name being commonly understood to signify also the moral pravity of the action, and, to denote its contrariety to the law, men are apt to condemn whatever they hear called stealing as an ill action, disagreeing with the rule of right. And yet the private taking away his sword from a *[mentally ill man]*, to prevent his doing mischief, though it be properly denominated stealing, as the name of such a mixed mode; yet when compared to the law of God, and considered in its relation to that supreme rule, it is no sin or transgression, though the name stealing ordinarily carries such an intimation with it.

2.28.17 *Relations innumerable.*—And thus much for the relation of human actions to a law, which therefore I call moral relation.

It would make a volume to go over all sorts of relations; it is not therefore to be expected that I should here mention them all. It suffices to our present purpose to show by these what the ideas are we have of this comprehensive consideration, called relation: which is so various, and the occasions of it so many (as many as there can be of comparing things one to another,) that it is not very easy to reduce it to rules, or under just heads. Those I have mentioned, I think, are some of the most considerable, and such as may serve to let us see from whence we get our ideas of relations, and wherein they are founded.

But before I quit this argument, from what has been said, give me leave to observe,

2.28.18 *All relations terminate in simple ideas.*—First, that it is evident that all relation terminates in, and is ultimately founded on, those simple ideas we have got from sensation or reflection: so that all that we have in our thoughts ourselves (if we think of any thing, or have any meaning) or would signify to others, when we use words standing for relations, is nothing but some simple ideas, or collections of simple ideas, compared one with another.

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Thus taking from another what is his, without his knowledge or consent, is properly called stealing. But that name is commonly understood to signify also the moral depravity of the action, and to denote that it is contrary to the law. So men are apt to condemn whatever they hear called stealing as a bad action, disagreeing with the rule of right. Now consider secretly taking a sword away from a man who is mentally ill, to keep him from doing harm. This is properly called stealing, as the name of such a mixed mode. Yet compared to the law of God, and considered in relation to that supreme rule, it is no sin or transgression, even though the name stealing ordinarily carries that suggestion with it.

Relations innumerable.—So much, then, for the relation of human actions to a law, which I therefore call moral relation.

It would take a volume to go through all sorts of relations, so it is not to be expected that I should mention them all here. It is enough for our present purpose to show by these what ideas we have of this comprehensive consideration called relation. Relation is so various, and the occasions for it are so many (as many as there can be for comparing things with one another), that it is not very easy to reduce it to rules or arrange it under proper headings. The relations I have mentioned are, I think, some of the most considerable. They may serve to let us see where we get our ideas of relations from and what they are founded on.

But before I leave this topic, allow me to observe, from what has been said,

All relations terminate in simple ideas.—First, it is evident that all relation terminates in, and is ultimately founded on, the simple ideas we have gotten from sensation or reflection. So everything we have in our own thoughts (if we think of anything, or mean anything), and everything we want to convey to others, when we use words standing for relations, is nothing but some simple ideas, or collections of simple ideas, compared with one another.

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This is so manifest in that sort called proportional, that nothing can be more: for when a man says honey is sweeter than wax, it is plain that his thoughts, in this relation, terminate in this simple idea, sweetness, which is equally true of all the rest; though, where they are compounded or decompounded, the simple ideas they are made up of are, perhaps, seldom taken notice of. *V. g.* when the word father is mentioned: First, there is meant that particular species, or collective idea, signified by the word man. Secondly, those sensible simple ideas, signified by the word generation; and, thirdly, the effects of it, and all the simple ideas signified by the word child.

So the word friend being taken for a man who loves, and is ready to do good to another, has all these following ideas to the making of it up; first, all the simple ideas, comprehended in the word man, or intelligent being. Secondly, the idea of love. Thirdly, the idea of readiness or disposition. Fourthly, the idea of action, which is any kind of thought or motion. Fifthly, the idea of good, which signifies any thing that may advance his happiness, and terminates at last, if examined, in particular simple ideas, of which the word good in general signifies any one; but, if removed from all simple ideas quite, it signifies nothing at all.

And thus also all moral words terminate at last, though perhaps more remotely, in a collection of simple ideas: the immediate signification of relative words being very often other supposed known relations, which, if traced one to another, still end in simple ideas.

2.28.19 *We have ordinarily as clear (or clearer) a notion of the relation, as of its foundation.*—Secondly, that in relations we have for the most part, if not always, as clear a notion of the relation, as we have of those simple ideas wherein it is founded. Agreement or disagreement, whereon relation depends, being things whereof we have commonly as clear ideas as of any other whatsoever; it being but the distinguishing simple ideas, or their degrees one from another, without which we could have no distinct knowledge at all.

For if I have a clear idea of sweetness, light, or extension, I have too of equal, or more or less, of each of these: if I know what it is for one man to

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Nothing could be more obvious than this in the sort of relation called proportional. When a man says honey is sweeter than wax, it is plain that his thoughts in this relation terminate in this simple idea, sweetness. The same is true of all the rest, though where they are compounded or decompounded, the simple ideas they are made up of are perhaps seldom noticed. For example, when the word father is mentioned, what is meant is, first, that particular species, or collective idea, signified by the word man. Second, those sensible simple ideas signified by the word generation. And third, its effects, and all the simple ideas signified by the word child.

In the same way, the word friend, taken for a man who loves another and is ready to do him good, is made up of all the following ideas. First, all the simple ideas included in the word man, or intelligent being. Second, the idea of love. Third, the idea of readiness or disposition. Fourth, the idea of action, which is any kind of thought or motion. Fifth, the idea of good, which signifies anything that may advance his happiness. If examined, this finally terminates in particular simple ideas, any one of which the word good in general signifies. But if it is removed entirely from all simple ideas, it signifies nothing at all.

So too all moral words terminate at last, though perhaps more remotely, in a collection of simple ideas. The immediate meaning of relative words is very often other relations supposed to be known, and these, if traced from one to another, still end in simple ideas.

We ordinarily have as clear (or clearer) a notion of the relation as of its foundation.—Second, in relations we have for the most part, if not always, as clear a notion of the relation as we have of the simple ideas it is founded on. For agreement or disagreement, on which relation depends, are things of which we commonly have ideas as clear as of anything else whatever. It is only a matter of distinguishing simple ideas, or their degrees, from one another, and without that we could have no distinct knowledge at all.

For if I have a clear idea of sweetness, light, or extension, I also have a clear idea of equal, or more, or less of each of them. If I know what it is for one

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be born of a woman, viz. Sempronia, I know what it is for another man to be born of the same woman, Sempronia; and so have as clear a notion of brothers as of births, and perhaps clearer.

For if I believed that Sempronia dug Titus out of the parsley-bed (as they used to tell children), and thereby became his mother; and that afterward, in the same manner, she dug Caius out of the parsley-bed; I had as clear a notion of the relation of brothers between them, as if I had all the skill of a midwife: the notion that the same woman contributed, as mother, equally to their births, (though I were ignorant or mistaken in the manner of it,) being that on which I grounded the relation, and that they agreed in that circumstance of birth, let it be what it will.

The comparing them then, in their descent from the same person, without knowing the particular circumstances of that descent, is enough to found my notion of their having or not having the relation of brothers. But though the ideas of particular relations are capable of being as clear and distinct in the minds of those who will duly consider them as those of mixed modes, and more determinate than those of substances; yet the names belonging to relation are often of as doubtful and uncertain signification as those of substances or mixed modes, and much more than those of simple ideas; because relative words being the marks of this comparison, which is made only by men's thoughts, and is an idea only in men's minds, men frequently apply them to different comparisons of things, according to their own imaginations, which do not always correspond with those of others using the same name.

2.28.20 *The notion of the relation is the same, whether the rule and action to be compared is true or false.*— Thirdly, that in these I call moral relations I have a true notion of relation, by comparing the action with the rule, whether the rule be true or false. For if I measure any thing by a yard, I know whether the thing I measure be longer or shorter than that supposed yard, though perhaps the yard I measure by be not exactly the standard, which indeed is another inquiry: for though the rule be erroneous, and I mistaken in it, yet the agreement

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man to be born of a woman, namely Sempronia, I know what it is for another man to be born of the same woman, Sempronia. So I have as clear a notion of brothers as of births, and perhaps a clearer one.

Suppose I believed that Sempronia dug Titus out of the parsley bed (as people used to tell children), and so became his mother, and that afterward she dug Caius out of the parsley bed in the same way. I would have as clear a notion of the relation of brothers between them as if I had all the skill of a midwife. For what I grounded the relation on was the notion that the same woman contributed equally, as mother, to their births (even though I was ignorant or mistaken about how), and that they agreed in that circumstance of birth, whatever it might be.

So comparing them in their descent from the same person, without knowing the particular circumstances of that descent, is enough to found my notion of whether or not they have the relation of brothers. But although the ideas of particular relations can be as clear and distinct as those of mixed modes in the minds of people who will consider them properly, and more determinate than those of substances, the names belonging to relation are often as doubtful and uncertain in their meaning as those of substances or mixed modes, and much more so than those of simple ideas. The reason is that relative words are the marks of this comparison, which is made only by men's thoughts and is an idea only in men's minds. So men frequently apply them to different comparisons of things, according to their own imaginations, and these do not always correspond with the imaginations of others using the same name.

The notion of the relation is the same, whether the rule and action compared are true or false.—Third, in what I call moral relations I have a true notion of relation by comparing the action with the rule, whether the rule is true or false. If I measure something with a yardstick, I know whether the thing I measure is longer or shorter than that supposed yard, even though the yardstick I measure by may not be exactly the standard. That is really a different inquiry. For even if the rule is wrong, and I am mistaken about it, the agreement or dis-

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or disagreement observable in that which I compare with makes me perceive the relation.	agreement I can observe in what I compare with it makes me perceive the relation.
Though measuring by a wrong rule, I shall thereby be brought to judge amiss of its moral rectitude, because I have tried it by that which is not the true rule, yet I am not mistaken in the relation which that action bears to that rule I compare it to, which is agreement or disagreement.	If I measure by a wrong rule, I will be led to misjudge the action's moral rightness, because I have tested it by something that is not the true rule. Yet I am not mistaken about the relation that action bears to the rule I compare it with, which is agreement or disagreement.

CLEAR AND DISTINCT IDEAS

Locke explains what makes ideas clear or obscure, distinct or confused, and how confusion relates to names.

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2.29.1 *Ideas, some clear and distinct, others obscure and confused.*—Having shown the original of our ideas, and taken a view of their several sorts, considered the difference between the simple and the complex, and observed how the complex ones are divided into those of modes, substances, and relations; all which, I think, is necessary to be done by any one who would acquaint himself thoroughly with the progress of the mind in its apprehension and knowledge of things; it will, perhaps, be thought I have dwelt long enough upon the examination of ideas. I must, nevertheless, crave leave to offer some few other considerations concerning them. The first is, that some are clear, and others obscure; some distinct, and others confused.	*Ideas, some clear and distinct, others obscure and confused.*—I have shown the origin of our ideas and surveyed their various sorts. I have considered the difference between the simple and the complex, and observed how the complex ones are divided into those of modes, substances, and relations. All this, I think, has to be done by anyone who wants to acquaint himself thoroughly with the progress of the mind in its apprehension and knowledge of things. It may now be thought that I have dwelt long enough on the examination of ideas. Nevertheless I must ask leave to offer a few more considerations about them. The first is that some are clear and others obscure, some distinct and others confused.
2.29.2 *Clear and obscure explained by sight.*—The perception of the mind being most aptly explained by words relating to the sight, we shall best understand what is meant by clear and obscure in our ideas by reflecting on what we call clear and obscure in the objects of sight. Light being that which discovers to us visible objects, we give the name of obscure to that which is not placed in a light sufficient to discover minutely to us the figure and colours which are observable in it, and which, in a better light, would be discernible.	*Clear and obscure explained by sight.*—Since the perception of the mind is most aptly explained by words relating to sight, we will best understand what is meant by clear and obscure in our ideas by reflecting on what we call clear and obscure in the objects of sight. Light is what reveals visible objects to us, so we call obscure whatever is not placed in enough light to reveal to us in detail the shape and colors that can be observed in it, and that would be discernible in a better light.
In like manner our simple ideas are clear when they are such as the objects themselves, from whence they were taken, did or might, in a well-ordered sensation or perception, present them. Whilst the memory retains them thus, and can produce them to the mind, whenever it has occasion to consider them, they are clear ideas.	In the same way, our simple ideas are clear when they are such as the objects they were taken from did or could present them in a well-ordered sensation or perception. As long as the memory retains them in this way, and can produce them to the mind whenever it needs to consider them, they are clear ideas. To the extent that they either lack

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So far as they either want any thing of the original exactness, or have lost any of their first freshness, and are, as it were, faded or tarnished by time, so far are they obscure.

Complex ideas, as they are made up of simple ones, so they are clear when the ideas that go to their composition are clear; and the number and order of those simple ideas, that are the ingredients of any complex one, is determinate and certain.

2.29.3 *Causes of obscurity.*—The causes of obscurity in simple ideas seem to be either dull organs, or very slight and transient impressions made by the objects, or else a weakness in the memory not able to retain them as received.

For to return again to visible objects, to help us to apprehend this matter: if the organs or faculties of perception, like wax over-hardened with cold, will not receive the impression of the seal, from the usual impulse wont to imprint it; or, like wax, of a temper too soft, will not hold it well when well imprinted; or else supposing the wax of a temper fit, but the seal not applied with a sufficient force to make a clear impression: in any of these cases, the print left by the seal will be obscure. This, I suppose, needs no application to make it plainer.

2.29.4 *Distinct and confused, what.*—As a clear idea is that whereof the mind has such a full and evident perception, as it does receive from an outward object operating duly on a well-disposed organ; so a distinct idea is that wherein the mind perceives a difference from all other; and a confused idea is such a one as is not sufficiently distinguishable from another, from which it ought to be different.

2.29.5 *Objection.*—If no idea be confused but such as is not sufficiently distinguishable from another, from which it should be different, it will be hard, may any one say, to find any where a confused idea. For let any idea be as it will, it can be no other but such as the mind perceives it to be; and that very perception sufficiently distinguishes it from all other ideas, which cannot be other, *i. e.* different, without being perceived to be so. No idea therefore can be undistinguishable from another, from which it ought to be different,

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anything of their original exactness, or have lost any of their first freshness and are, so to speak, faded or tarnished by time, to that extent they are obscure.

Complex ideas are made up of simple ones, and so they are clear when the ideas that go into their composition are clear, and when the number and order of the simple ideas that are the ingredients of the complex one are determinate and certain.

Causes of obscurity.—The causes of obscurity in simple ideas seem to be either dull organs, or very slight and fleeting impressions made by the objects, or else a weakness of memory that cannot retain them as they were received.

To return again to visible objects, to help us grasp this matter: suppose the organs or faculties of perception are like wax hardened too much by cold, and will not take the impression of the seal from the usual pressure that normally imprints it. Or suppose they are like wax too soft, which will not hold the impression well even when it has been well imprinted. Or suppose the wax is of the right consistency, but the seal is not applied with enough force to make a clear impression. In any of these cases the print left by the seal will be obscure. This, I suppose, needs no application to make it plainer.

Distinct and confused, what.—A clear idea is one of which the mind has as full and evident a perception as it receives from an outward object acting properly on a well-disposed organ. In the same way, a distinct idea is one in which the mind perceives a difference from all others, and a confused idea is one that is not sufficiently distinguishable from another from which it ought to be different.

Objection.—Someone may say: if no idea is confused except one that is not sufficiently distinguishable from another from which it should be different, it will be hard to find a confused idea anywhere. For whatever an idea may be, it can be nothing other than what the mind perceives it to be. And that very perception sufficiently distinguishes it from all other ideas, which cannot be other, that is, different, without being perceived to be so. So no idea can be indistinguishable from another from which it ought to be different, unless

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unless you would have it different from itself: for from all other it is evidently different.

2.29.6 *Confusion of ideas is in reference to their names.*—To remove this difficulty, and to help us to conceive aright what it is that makes the confusion ideas are at any time chargeable with, we must consider, that things ranked under distinct names are supposed different enough to be distinguished, that so each sort by its peculiar name may be marked, and discoursed of apart upon any occasion: and there is nothing more evident than that the greatest part of different names are supposed to stand for different things.

Now every idea a man has being visibly what it is, and distinct from all other ideas but itself, that which makes it confused is, when it is such, that it may as well be called by another name as that which it is expressed by: the difference which keeps the things (to be ranked under those two different names) distinct, and makes some of them belong rather to the one, and some of them to the other of those names, being left out; and so the distinction, which was intended to be kept up by those different names is quite lost.

2.29.7 *Defaults which make confusion.*—The defaults which usually occasion this confusion, I think, are chiefly these following:

First, complex ideas made up of too few simple ones.—First, when any complex idea (for it is complex ideas that are most liable to confusion) is made up of too small a number of simple ideas, and such only as are common to other things, whereby the differences that make it deserve a different name are left out. Thus, he that has an idea made up of barely the simple ones of a beast with spots, has but a confused idea of a leopard, it not being thereby sufficiently distinguished from a lynx, and several other sorts of beasts that are spotted.

So that, such an idea, though it hath the peculiar name leopard, is not distinguishable from those designed by the names lynx, or panther, and may as well come under the name lynx as leopard. How much the custom of defining of words by general terms contributes to make the ideas we would express by them confused and undetermined, I leave others to consider. This is evident, that confused ideas are such as render the use of words uncertain, and take away the

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you want it to be different from itself, for it is evidently different from all others.

Confusion of ideas is in reference to their names.—To remove this difficulty, and to help us understand correctly what makes up the confusion that ideas can at any time be charged with, we must consider that things ranked under distinct names are supposed to be different enough to be distinguished, so that each sort can be marked by its own name and discussed separately whenever needed. And nothing is more evident than that most different names are supposed to stand for different things.

Now every idea a man has is visibly what it is, and distinct from all ideas other than itself. What makes it confused is when it is such that it could just as well be called by another name as by the one it is expressed by. The difference that keeps the things to be ranked under those two different names distinct, and makes some of them belong to one of those names rather than the other, has been left out. And so the distinction those different names were meant to preserve is completely lost.

Defects which cause confusion.—The defects that usually cause this confusion are, I think, chiefly the following.

First, complex ideas made up of too few simple ones.—First, when a complex idea (for it is complex ideas that are most liable to confusion) is made up of too small a number of simple ideas, and only ones that are common to other things, so that the differences that entitle it to a different name are left out. Thus someone whose idea is made up only of the simple ideas of a beast with spots has only a confused idea of a leopard, since it is not thereby sufficiently distinguished from a lynx and several other sorts of spotted beasts.

So such an idea, though it has its own name, leopard, cannot be distinguished from those designated by the names lynx or panther, and could just as well come under the name lynx as leopard. How much the custom of defining words by general terms contributes to making the ideas we want to express by them confused and undetermined, I leave others to consider. This much is evident: confused ideas are the kind that make the use of words uncertain and take away the benefit of dis-

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benefit of distinct names. When the ideas, for which we use different terms, have not a difference answerable to their distinct names, and so cannot be distinguished by them, there it is that they are truly confused.

2.29.8 *Secondly, or its simple ones jumbled disorderly together.*—Secondly, another fault which makes our ideas confused is when, though the particulars that make up any idea are in number enough, yet they are so jumbled together, that it is not easily discernible whether it more belongs to the name that is given it than to any other. There is nothing more proper to make us conceive this confusion, than a sort of pictures usually shown as surprising pieces of art, wherein the colours, as they are laid by the pencil on the table itself, mark out very odd and unusual figures, and have no discernible order in their position.

This draught, thus made up of parts wherein no symmetry nor order appears, is in itself no more a confused thing than the picture of a cloudy sky; wherein, though there be as little order of colours or figures to be found, yet nobody thinks it a confused picture. What is it then that makes it be thought confused, since the want of symmetry does not? as it is plain it does not, for another draught made, barely in imitation of this, could not be called confused. I answer, that which makes it be thought confused is the applying it to some name to which it does no more discernibly belong than to some other: v.

g. *when it is said to be the picture of a man, or Cæsar, then any one with reason counts it confused: because it is not discernible in that state to belong more to the name man, or Cæsar, than to the name baboon, or Pompey; which are supposed to stand for different ideas from those signified by man or Cæsar. But when a cylindrical mirror, placed right, hath reduced those irregular lines on the table into their due order and proportion, then the confusion ceases, and the eye presently sees that it is a man, or Cæsar,* i. e. *that it belongs to those names, and that it is sufficiently distinguishable from a baboon, or Pompey,* i.

e. from the ideas signified by those names. Just thus it is with our ideas, which are as it were the

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tinct names. When the ideas for which we use different terms do not have a difference corresponding to their distinct names, and so cannot be distinguished by them, it is then that they are truly confused.

Second, or its simple ones jumbled together in disorder.—Second, another fault that makes our ideas confused is when the particulars that make up an idea are numerous enough, but are so jumbled together that it is not easy to tell whether it belongs to the name it is given more than to any other. Nothing is better suited to make us conceive this confusion than a kind of picture usually shown as a surprising piece of art, in which the colors, as laid by the brush on the panel itself, mark out very odd and unusual shapes and have no discernible order in their arrangement.

A drawing like this, made up of parts in which no symmetry or order appears, is in itself no more a confused thing than the picture of a cloudy sky. There is just as little order of colors or shapes to be found there, yet nobody thinks it a confused picture. What is it, then, that makes the first be thought confused, since the lack of symmetry does not? Plainly it does not, for another drawing made simply in imitation of this one could not be called confused. I answer: what makes it be thought confused is applying it to some name to which it does not discernibly belong any more than to some other. For example,

when it is said to be the picture of a man, or of Caesar, anyone may reasonably count it confused, because in that state it cannot be seen to belong to the name man or Caesar any more than to the name baboon or Pompey, which are supposed to stand for ideas different from those signified by man or Caesar. But when a cylindrical mirror, placed correctly, has brought those irregular lines on the panel into their proper order and proportion, the confusion ends. The eye immediately sees that it is a man, or Caesar, that is, that it belongs to those names, and that it is sufficiently distinguishable from a baboon or Pompey—[28]

that is, from the ideas signified by those names. It is just the same with our ideas, which are, so to

28 Locke describes an anamorphic picture, a popular curiosity of the period: a deliberately distorted image that appears correctly only when reflected in a cylindrical mirror.

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pictures of things. No one of these mental draughts, however the parts are put together, can be called confused (for they are plainly discernible as they are,) till it be ranked under some ordinary name, to which it cannot be discerned to belong, any more than it does to some other name of an allowed different signification.

2.29.9 *Thirdly, or are mutable and undetermined.*—Thirdly, a third defect that frequently gives the name of confused to our ideas, is when any one of them is uncertain and undetermined. Thus we may observe men, who, not forbearing to use the ordinary words of their language till they have learned their precise signification, change the idea they make this or that term stand for, almost as often as they use it.

He that does this, out of uncertainty of what he should leave out, or put into his idea of church or idolatry, every time he thinks of either, and holds not steady to any one precise combination of ideas that makes it up, is said to have a confused idea of idolatry, or the church; though this be still for the same reason as the former, viz. because a mutable idea, (if we will allow it to be one idea,) cannot belong to one name rather than another; and so loses the distinction that distinct names are designed for.

2.29.10 *Confusion, without reference to names, hardly conceivable.*—By what has been said, we may observe how much names, as supposed steady signs of things, and by their difference to stand for and keep things distinct that in themselves are different, are the occasion of denominating ideas distinct or confused, by a secret and unobserved reference the mind makes of its ideas to such names. This perhaps will be fuller understood after what I say of words, in the third book, has been read and considered. But without taking notice of such a reference of ideas to distinct names, as the signs of distinct things, it will be hard to say what a confused idea is.

And therefore when a man designs, by any name, a sort of things, or any one particular thing, distinct from all others; the complex idea he annexes to that name is the more distinct, the more particular the ideas are, and the greater and more determinate the number and order of them

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speak, the pictures of things. None of these mental drawings, however their parts are put together, can be called confused (for they are plainly discernible as they are) until it is ranked under some ordinary name to which it cannot be seen to belong any more than it does to some other name with an acknowledged different meaning.

Third, or are changeable and undetermined.—Third, a defect that frequently gets our ideas called confused is when any of them is uncertain and undetermined. Thus we may observe men who do not refrain from using the ordinary words of their language until they have learned their precise meaning, and who change the idea they make this or that term stand for almost every time they use it.

Someone who does this, out of uncertainty about what he should leave out of or put into his idea of church or idolatry every time he thinks of either, and who does not hold steady to any one precise combination of ideas that makes it up, is said to have a confused idea of idolatry, or of the church. Yet this is still for the same reason as before, namely, that a changeable idea (if we allow it to be one idea) cannot belong to one name rather than another, and so loses the distinction that distinct names are meant for.

Confusion, without reference to names, hardly conceivable.—From what has been said, we can see how much names are responsible for our calling ideas distinct or confused. Names are supposed to be steady signs of things, and by their difference to stand for and keep distinct things that are different in themselves; and the mind makes a secret and unnoticed reference of its ideas to such names. This will perhaps be more fully understood once what I say about words in the third book has been read and considered. But without noticing this reference of ideas to distinct names, as the signs of distinct things, it will be hard to say what a confused idea is.

So when a man uses a name to designate a sort of things, or any one particular thing, as distinct from all others, the complex idea he attaches to that name is the more distinct, the more particular the ideas it is made up of are, and the greater and more determinate their number and order.

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are, whereof it is made up. For the more it has of these, the more it has still of the perceivable differences, whereby it is kept separate and distinct from all ideas belonging to other names, even those that approach nearest to it; and thereby all confusion with them is avoided.

2.29.11 *Confusion concerns always two ideas.*—Confusion, making it a difficulty to separate two things that should be separated, concerns always two ideas; and those most which most approach one another. Whenever therefore we suspect any idea to be confused, we must examine what other it is in danger to be confounded with, or which it cannot easily be separated from; and that will always be found an idea belonging to another name, and so should be a different thing, from which yet it is not sufficiently distinct; being either the same with it, or making a part of it, or at least, as properly called by that name as the other it is ranked under; and so keeps not that difference from that other idea, which the different names import.

2.29.12 *Causes of confusion.*—This, I think, is the confusion proper to ideas, which still carries with it a secret reference to names. At least, if there be any other confusion of ideas, this is that which most of all disorders men's thoughts and discourses: ideas, as ranked under names, being those that for the most part men reason of within themselves, and always those which they commune about with others.

And therefore where there are supposed two different ideas marked by two different names, which are not as distinguishable as the sounds that stand for them, there never fails to be confusion; and where any ideas are distinct, as the ideas of those two sounds they are marked by, there can be between them no confusion.—The way to prevent it is to collect and unite into one complex idea, as precisely as is possible, all those ingredients whereby it is differenced from others; and to them, so united in a determinate number and order, apply steadily the same name.

But this neither accommodating men's ease or vanity, or serving any design but that of naked truth, which is not always the thing aimed at, such exactness is rather to be wished than hoped for. And since the loose application of names to undetermined, variable, and almost no ideas,

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For the more of these it has, the more perceivable differences it has, by which it is kept separate and distinct from all ideas belonging to other names, even those that come closest to it; and in this way all confusion with them is avoided.

Confusion always concerns two ideas.—Confusion, which makes it difficult to separate two things that should be separated, always concerns two ideas, and most of all those that come closest to each other. So whenever we suspect an idea of being confused, we must examine what other idea it is in danger of being confused with, or cannot easily be separated from. That will always turn out to be an idea belonging to another name, and so should be a different thing, but from which it is not sufficiently distinct. It is either the same as it, or part of it, or at least can be called by that name as properly as by the one it is ranked under. So it does not keep the difference from that other idea that the different names imply.

Causes of confusion.—This, I think, is the confusion proper to ideas, and it always carries with it a secret reference to names. At least, if there is any other confusion of ideas, this is the one that most of all disorders men's thoughts and discourse. For ideas as ranked under names are for the most part the ones men reason about within themselves, and always the ones they communicate about with others.

So wherever two different ideas are supposed to be marked by two different names, but are not as distinguishable as the sounds that stand for them, there is always confusion. And wherever ideas are as distinct as the ideas of the two sounds that mark them, there can be no confusion between them.—The way to prevent it is to collect and unite into one complex idea, as precisely as possible, all the ingredients by which it is differentiated from others, and to apply the same name steadily to them, united in a determinate number and order.

But since this neither suits men's ease or vanity, nor serves any purpose except that of naked truth, which is not always what is aimed at, such exactness is more to be wished for than hoped for. And since loosely applying names to undetermined, variable, and almost nonexistent ideas serves both

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serves both to cover our own ignorance, as well as to perplex and confound others, which goes for learning and superiority in knowledge, it is no wonder that most men should use it themselves, whilst they complain of it in others. Though, I think, no small part of the confusion to be found in the notions of men might by care and ingenuity be avoided, yet I am far from concluding it every where wilful.

Some ideas are so complex, and made up of so many parts, that the memory does not easily retain the very same precise combination of simple ideas under one name; much less are we able constantly to divine for what precise complex idea such a name stands in another man's use of it. From the first of these, follows confusion in a man's own reasonings and opinions within himself; from the latter, frequent confusion in discoursing and arguing with others. But having more at large treated of words, their defects and abuses, in the following book, I shall here say no more of it.

2.29.13 *Complex ideas may be distinct in one part, and confused in another.*—Our complex ideas being made up of collections, and so variety of simple ones, may accordingly be very clear and distinct in one part, and very obscure and confused in another.

In a man who speaks of a chiliædron, or a body of a thousand sides, the ideas of the figure may be very confused, though that of the number be very distinct; so that he being able to discourse and demonstrate concerning that part of his complex idea which depends upon the number of a thousand, he is apt to think he has a distinct idea of a chiliædron; though it be plain he has no precise idea of its figure, so as to distinguish it by that, from one that has but 999 sides; the not observing whereof causes no small error in men's thoughts, and confusion in their discourses.

2.29.14 *This, if not heeded, causes confusion in our arguings.*—He that thinks he has a distinct idea of the figure of a chiliædron, let him for trial sake take another parcel of the same uniform matter, viz. gold or wax, of an equal bulk, and make it into a figure of 999 sides: he will, I doubt not, be able to distinguish these two ideas one from another by the number of sides, and reason and argue distinctly about them, whilst he keeps his

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to cover our own ignorance and to perplex and confuse others, which passes for learning and superior knowledge, it is no wonder that most men use it themselves while complaining of it in others. Though I think no small part of the confusion found in men's notions could be avoided by care and ingenuity, I am far from concluding that it is everywhere deliberate.

Some ideas are so complex, and made up of so many parts, that the memory does not easily retain exactly the same precise combination of simple ideas under one name. Much less can we always guess what precise complex idea such a name stands for when another man uses it. The first of these leads to confusion in a man's own reasonings and opinions within himself; the second, to frequent confusion in discussing and arguing with others. But since I treat words, their defects and abuses, at greater length in the following book, I will say no more about it here.

Complex ideas may be distinct in one part and confused in another.—Since our complex ideas are made up of collections, and so of a variety, of simple ones, they may accordingly be very clear and distinct in one part and very obscure and confused in another.

In a man who speaks of a chiliaedron, or a body of a thousand sides, the idea of the shape may be very confused, though that of the number is very distinct. Because he is able to discuss and demonstrate things about the part of his complex idea that depends on the number one thousand, he is apt to think he has a distinct idea of a chiliaedron. Yet it is plain that he has no precise idea of its shape, such as would let him distinguish it by that from one that has only 999 sides. Failing to notice this causes no small error in men's thoughts, and confusion in their discourse.

This, if not heeded, causes confusion in our arguments.—Let anyone who thinks he has a distinct idea of the shape of a chiliaedron, as a test, take another lump of the same uniform matter, namely gold or wax, of equal size, and make it into a shape of 999 sides. I have no doubt he will be able to distinguish these two ideas from each other by the number of sides, and to reason and argue distinctly

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thoughts and reasoning to that part only of these ideas which is contained in their numbers; as that the sides of the one could be divided into two equal numbers, and of the others not, &c.

But when he goes about to distinguish them by their figure, he will there be presently at a loss, and not be able, I think, to frame in his mind two ideas, one of them distinct from the other, by the bare figure of these two pieces of gold, as he could, if the same parcels of gold were made one into a cube, the other a figure of five sides. In which incomplete ideas we are very apt to impose on ourselves, and wrangle with others, especially where they have particular and familiar names.

For being satisfied in that part of the idea, which we have clear,—and the name which is familiar to us being applied to the whole, containing that part also which is imperfect and obscure,—we are apt to use it for that confused part, and draw deductions from it, in the obscure part of its signification, as confidently as we do from the other.

2.29.15 *Instance in eternity.*—Having frequently in our mouths the name eternity, we are apt to think we have a positive comprehensive idea of it, which is as much as to say that there is no part of that duration which is not clearly contained in our idea.

It is true, that he who thinks so may have a clear idea of duration; he may also have a very clear idea of a very great length of duration; he may also have a clear idea of the comparison of that great one with still a greater: but it not being possible for him to include in his idea of any duration, let it be as great as it will, the whole extent together of a duration, where he supposes no end, that part of his idea, which is still beyond the bounds of that large duration he represents to his own thoughts, is very obscure and undetermined.

And hence it is, that in disputes and reasonings concerning eternity, or any other infinity, we are apt to blunder, and involve ourselves in manifest absurdities.

2.29.16 *Divisibility of matter.*—In matter we have no clear ideas of the smallness of parts much beyond the smallest that occur to any of our senses; and

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about them, as long as he confines his thoughts and reasoning to the part of these ideas contained in their numbers: for instance, that the sides of the one could be divided into two equal numbers and those of the other could not, and so on.

But when he tries to distinguish them by their shape, he will immediately be at a loss. He will not be able, I think, to form in his mind two ideas distinct from each other by the mere shape of these two pieces of gold, as he could if the same lumps of gold were made one into a cube and the other into a five-sided figure. With such incomplete ideas we are very apt to deceive ourselves and quarrel with others, especially where they have particular and familiar names.

For we are satisfied with the part of the idea that we have clearly, and the name familiar to us is applied to the whole, including the part that is imperfect and obscure. So we are apt to use it for that confused part, and to draw deductions from it in the obscure part of its meaning as confidently as we do from the other.

Instance in eternity.—Since the name eternity is often on our lips, we are apt to think we have a positive, comprehensive idea of it, which is as much as to say that there is no part of that duration that is not clearly contained in our idea.

It is true that someone who thinks so may have a clear idea of duration. He may also have a very clear idea of a very great length of duration. He may also have a clear idea of the comparison of that great one with a still greater one. But it is not possible for him to include in his idea of any duration, however great, the whole extent at once of a duration that he supposes to have no end. So the part of his idea that lies beyond the limits of the large duration he represents to his own thoughts is very obscure and undetermined.

That is why, in disputes and reasonings about eternity, or any other infinity, we are apt to blunder and entangle ourselves in obvious absurdities.

Divisibility of matter.—In matter we have no clear ideas of smallness of parts much beyond the smallest that occur to any of our senses. So when we

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therefore when we talk of the divisibility of matter in infinitum, though we have clear ideas of division and divisibility, and have also clear ideas of parts made out of a whole by division, yet we have but very obscure and confused ideas of corpuscles, or minute bodies so to be divided, when by former divisions they are reduced to a smallness much exceeding the perception of any of our senses; and so all that we have clear and distinct ideas of, is of what division in general or abstractedly is, and the relation of totum and parts; but of the bulk of the body to be thus infinitely divided after certain progressions, I think we have no clear nor distinct idea at all.

For I ask any one, whether taking the smallest atom of dust he ever saw, he has any distinct idea (bating still the number, which concerns not extension) betwixt the 100,000th, and the 1,000,000th part of it. Or if he thinks he can refine his ideas to that degree, without losing sight of them, let him add ten cyphers to each of those numbers. Such a degree of smallness is not unreasonable to be supposed, since a division carried on so far brings it no nearer the end of infinite division than the first division into two halves does.

I must confess, for my part, I have no clear distinct ideas of the different bulk or extension of those bodies, having but a very obscure one of either of them. So that, I think, when we talk of the division of bodies in infinitum, our idea of their distinct bulks, which is the subject and foundation of division, comes, after a little progression, to be confounded and almost lost in obscurity. For that idea which is to represent only bigness, must be very obscure and confused, which we cannot distinguish from one ten times as big, but only by number; so that we have clear, distinct ideas, we may say, of ten and one, but no distinct ideas of two such extensions.

It is plain from hence, that when we talk of infinite divisibility of body, or extension, our distinct and clear ideas are only of numbers; but the clear distinct ideas of extension, after some progress of division, are quite lost and of such minute parts we have no distinct ideas at all; but it returns, as all our ideas of infinite do, at last to that of number always to be added, but thereby never amounts to any distinct idea of actual infinite parts.

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talk about the divisibility of matter to infinity, we have clear ideas of division and divisibility, and also clear ideas of parts made from a whole by division. But we have only very obscure and confused ideas of corpuscles, or minute bodies, to be divided in this way once earlier divisions have reduced them to a smallness far beyond the perception of any of our senses. So all we have clear and distinct ideas of is what division is in general or in the abstract, and the relation of whole and parts. But of the size of the body to be divided infinitely in this way, after certain stages, I think we have no clear or distinct idea at all.

For I ask anyone whether, taking the smallest speck of dust he ever saw, he has any distinct idea of the difference (apart from the number, which does not concern extension) between the 100,000th and the 1,000,000th part of it. Or if he thinks he can refine his ideas to that degree without losing sight of them, let him add ten zeros to each of those numbers. It is not unreasonable to suppose such a degree of smallness, since a division carried that far brings it no nearer the end of infinite division than the first division into two halves does.

For my part, I must confess that I have no clear, distinct ideas of the different size or extension of those bodies, having only a very obscure idea of either of them. So I think that when we talk about the division of bodies to infinity, our idea of their distinct sizes, which is the subject and foundation of division, becomes confused after a little progress, and almost lost in obscurity. For an idea that is meant to represent only size must be very obscure and confused if we cannot distinguish it from one ten times as big except by number. So we have clear, distinct ideas, we may say, of ten and one, but no distinct ideas of two such extensions.

It is plain from this that when we talk of the infinite divisibility of body, or extension, our distinct and clear ideas are only of numbers. The clear, distinct ideas of extension are completely lost after some progress of division, and of such minute parts we have no distinct ideas at all. It all comes back at last, as all our ideas of the infinite do, to the idea of number that can always be added to, but that never thereby amounts to any distinct idea of actually infinite parts.

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We have, it is true, a clear idea of division, as often as we think of it; but thereby we have no more a clear idea of infinite parts in matter, than we have a clear idea of an infinite number, by being able still to add new numbers to any assigned numbers we have; endless divisibility giving us no more a clear and distinct idea of actually infinite parts, than endless addibility (if I may so speak) gives us a clear and distinct idea of an actually infinite number, they both being only in a power still of increasing the number, be it already as great as it will.

So that of what remains to be added (wherein consists the infinity,) we have but an obscure, imperfect, and confused idea; from or about which we can argue or reason with no certainty or clearness, no more than we can in arithmetic about a number of which we have no such distinct idea, as we have of four or one hundred; but only this relative obscure one, that compared to any other, it is still bigger; and we have no more a clear positive idea of it when we say or conceive it is bigger, or more than 400,000,000, than if we should say it is bigger than forty or four; 400,000,000 having no nearer a proportion to the end of addition or number than four.

For he that adds only four to four, and so proceeds, shall as soon come to the end of all addition, as he that adds 400,000,000 to 400,000,000. And so likewise in eternity, he that has an idea of but four years has as much a positive complete idea of eternity as he that has one of 400,000,000 of years: for what remains of eternity beyond either of these two numbers of years is as clear to the one as the other, *i. e.* neither of them has any clear positive idea of it at all.

For he that adds only four years to four, and so on, shall as soon reach eternity as he that adds 400,000,000 of years, and so on; or, if he please, doubles the increase as often as he will; the remaining abyss being still as far beyond the end of all these progressions as it is from the length of a day or an hour. For nothing finite bears any proportion to infinite; and therefore our ideas, which are all finite, cannot bear any. Thus it is also in our ideas of extension, when we increase it by addition, as well as when we diminish it by

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It is true that we have a clear idea of division whenever we think of it. But that no more gives us a clear idea of infinite parts in matter than being able always to add new numbers to any given numbers we have gives us a clear idea of an infinite number. Endless divisibility no more gives us a clear and distinct idea of actually infinite parts than endless addibility (if I may put it that way) gives us a clear and distinct idea of an actually infinite number. For both consist only in a power of increasing the number further, however great it already is.

So of what remains to be added (which is where the infinity consists) we have only an obscure, imperfect, and confused idea. We cannot argue or reason from or about it with any certainty or clearness, any more than we can in arithmetic about a number of which we have no distinct idea such as we have of four or a hundred, but only the relative, obscure idea that it is always bigger than any other. And we have no clearer positive idea of it when we say or conceive that it is bigger than, or more than, 400,000,000, than if we said it is bigger than forty or four. For 400,000,000 bears no nearer a proportion to the end of addition or number than four does.

Someone who adds only four to four, and so on, will reach the end of all addition just as soon as someone who adds 400,000,000 to 400,000,000. Likewise with eternity: someone who has an idea of only four years has as positive and complete an idea of eternity as someone who has an idea of 400,000,000 years. For what remains of eternity beyond either of these two numbers of years is as clear to the one as to the other; that is, neither of them has any clear positive idea of it at all.

For someone who adds only four years to four, and so on, will reach eternity just as soon as someone who adds 400,000,000 years, and so on, or, if he likes, doubles the increase as often as he wants. The remaining abyss is still as far beyond the end of all these progressions as it is beyond the length of a day or an hour. For nothing finite bears any proportion to the infinite, and so our ideas, which are all finite, cannot bear any. It is the same with our ideas of extension, both when we increase it by addition and when we diminish it by division, and try to enlarge our thoughts to infinite space.

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division, and would enlarge our thoughts to infinite space.	
After a few doublings of those ideas of extension, which are the largest we are accustomed to have, we lose the clear distinct idea of that space; it becomes a confusedly great one, with a surplus of still greater; about which, when we would argue or reason, we shall always find ourselves at a loss; confused ideas in our arguings and deductions from that part of them which is confused always leading us into confusion.	After a few doublings of the largest ideas of extension we are used to having, we lose the clear, distinct idea of that space. It becomes a confusedly great one, with a surplus of something still greater, and when we try to argue or reason about it, we will always find ourselves at a loss. For in our arguments and deductions, confused ideas, in the part of them that is confused, always lead us into confusion.

REAL AND FANTASTICAL IDEAS

Simple ideas and consistent mixed modes are real; ideas of substances are real only when they match things.

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2.30.1 *Real ideas are conformable to their archetypes.*— Besides what we have already mentioned concerning ideas, other considerations belong to them, in reference to things from whence they are taken, or which they may be supposed to represent: and thus, I think, they may come under a threefold distinction; and are,	*Real ideas are those that conform to their archetypes.*— Besides what we have already said about ideas, there are other considerations that belong to them in reference to the things they are taken from, or that they may be supposed to represent. In this respect, I think, they fall under a threefold distinction. They are:
First, either real or fantastical.	First, either real or fantastical.
Secondly, adequate or inadequate.	Second, adequate or inadequate.
Thirdly, true or false.	Third, true or false.
First, by real ideas, I mean such as have a foundation in nature; such as have a conformity with the real being and existence of things, or with their archetypes. Fantastical or chimerical I call such as have no foundation in nature, nor have any conformity to that reality of being to which they are tacitly referred as to their archetypes. If we examine the several sorts of ideas before mentioned, we shall find, that,	First, by real ideas I mean those that have a foundation in nature, that conform to the real being and existence of things, or to their archetypes. Fantastical or chimerical ideas I call those that have no foundation in nature, and do not conform to the reality of being to which they are tacitly referred as to their archetypes. If we examine the various sorts of ideas already mentioned, we will find that:
2.30.2 *Simple ideas all real.*—First, our simple ideas are all real, all agree to the reality of things, not that they are all of them the images or representations of what does exist; the contrary whereof, in all but the primary qualities of bodies, hath been already shown. But though whiteness and coldness are no more in snow than pain is, yet those ideas of whiteness and coldness, pain, &c. being in us the effects of powers in things without us, ordained by our Maker, to produce in us such sensations,	*Simple ideas all real.*—First, our simple ideas are all real; they all agree with the reality of things. This is not to say that they are all images or representations of what exists; the contrary has already been shown for all but the primary qualities of bodies. But although whiteness and coldness are no more in snow than pain is, still those ideas of whiteness, coldness, pain, and so on are in us the effects of powers in things outside us, ordained by our Maker to produce such sensations in us. So they

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they are real ideas in us, whereby we distinguish the qualities that are really in things themselves.

For these several appearances being designed to be the marks whereby we are to know and distinguish things which we have to do with, our ideas do as well serve us to that purpose, and are as real distinguishing characters, whether they be only constant effects, or else exact resemblances of something in the things themselves; the reality lying in that steady correspondence they have with the distinct constitutions of real beings. But whether they answer to those constitutions, as to causes or patterns, it matters not; it suffices that they are constantly produced by them.

And thus our simple ideas are all real and true, because they answer and agree to those powers of things which produce them in our minds; that being all that is requisite to make them real, and not fictions at pleasure. For in simple ideas (as has been shown) the mind is wholly confined to the operation of things upon it, and can make to itself no simple idea more than what it has received.

2.30.3 *Complex ideas are voluntary combinations.*—Though the mind be wholly passive in respect of its simple ideas, yet I think we may say, it is not so in respect of its complex ideas: for those being combinations of simple ideas put together, and united under one general name, it is plain that the mind of man uses some kind of liberty in forming those complex ideas; how else comes it to pass that one man's idea of gold, or justice, is different from another's? but because he has put in, or left out of his, some simple idea which the other has not. The question then is, which of these are real, and which barely imaginary combinations?

What collections agree to the reality of things, and what not? and to this I say, that,

2.30.4 *Mixed modes, made of consistent ideas, are real.*—Secondly, mixed modes and relations having no other reality but what they have in the minds of men, there is nothing more required to this kind of ideas to make them real, but that they be so framed, that there be a possibility of existing conformable to them. These ideas themselves being archetypes, cannot differ from their archetypes, and so cannot be chimerical, unless

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are real ideas in us, by which we distinguish the qualities that are really in things themselves.

For these various appearances are designed to be the marks by which we are to know and distinguish the things we have to deal with. So our ideas serve us just as well for that purpose, and are just as real distinguishing characteristics, whether they are only constant effects or else exact resemblances of something in the things themselves. Their reality lies in the steady correspondence they have with the distinct constitutions of real beings. Whether they correspond to those constitutions as to causes or as to patterns does not matter; it is enough that they are constantly produced by them.

And so our simple ideas are all real and true, because they correspond and agree to the powers of things that produce them in our minds. That is all that is needed to make them real, and not arbitrary fictions. For in simple ideas (as has been shown) the mind is wholly confined to the operation of things on it, and can make itself no simple idea beyond what it has received.

Complex ideas are voluntary combinations.—Though the mind is wholly passive with respect to its simple ideas, I think we can say it is not so with respect to its complex ideas. For these are combinations of simple ideas put together and united under one general name, so it is plain that the human mind uses a kind of liberty in forming those complex ideas. How else does it come about that one man's idea of gold, or justice, is different from another's, except that he has put into his, or left out of it, some simple idea that the other has not? The question, then, is which of these are real combinations and which merely imaginary.

Which collections agree with the reality of things, and which do not? To this I say:

Mixed modes, made of consistent ideas, are real.—Second, since mixed modes and relations have no reality other than what they have in men's minds, nothing more is required to make this kind of idea real than that it be so framed that there could possibly exist something conforming to it. These ideas are themselves archetypes, so they cannot differ from their archetypes, and so cannot be chi-

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any one will jumble together in them inconsistent ideas.

Indeed, as any of them have the names of a known language assigned to them, by which he that has them in his mind would signify them to others, so bare possibility of existing is not enough; they must have a conformity to the ordinary signification of the name that is given them, that they may not be thought fantastical; as if a man would give the name of justice to that idea which common use calls liberality.

But this fantasticalness relates more to propriety of speech than reality of ideas: for a man to be undisturbed in danger, sedately to consider what is fittest to be done, and to execute it steadily, is a mixed mode, or a complex idea of an action which may exist. But to be undisturbed in danger, without using one's reason or industry, is what is also possible to be, and so is as real an idea as the other.

Though the first of these, having the name courage given to it, may, in respect of that name, be a right or wrong idea: but the other, whilst it has not a common received name of any known language assigned to it, is not capable of any deformity, being made with no reference to any thing but itself.

2.30.5 *Ideas of substances are real, when they agree with the existence of things.*—Thirdly, our complex ideas of substances being made all of them in reference to things existing without us, and intended to be representations of substances, as they really are, are no farther real than as they are such combinations of simple ideas as are really united, and coexist in things without us. On the contrary, those are fantastical, which are made up of such collections of simple ideas as were really never united, never were found together in any substance; v.

g. a rational creature, consisting of a horse's head, joined to a body of human shape, or such as the centaurs are described: or, a body yellow, very malleable, fusible, and fixed, but lighter than common water: or a uniform, unorganized body, consisting, as to sense, all of similar parts, with perception and voluntary motion joined to it.

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merical, unless someone jumbles inconsistent ideas together in them.

It is true that insofar as any of them have been assigned names in a known language, by which whoever has them in mind would signify them to others, mere possibility of existing is not enough. They must conform to the ordinary meaning of the name given them, if they are not to be thought fantastical: as if a man were to give the name justice to the idea that common usage calls liberality.

But this fantasticalness has more to do with propriety of speech than with the reality of ideas. For a man to be undisturbed in danger, to consider calmly what is best to be done, and to carry it out steadily, is a mixed mode, or a complex idea of an action that may exist. But to be undisturbed in danger without using one's reason or effort is also something that could possibly be, and so it is as real an idea as the other.

The first of these, having been given the name courage, may be a right or a wrong idea with respect to that name. But the other, as long as it has not been assigned a commonly accepted name in any known language, cannot be deficient in conformity at all, since it is made with no reference to anything but itself.

Ideas of substances are real when they agree with the existence of things.—Third, our complex ideas of substances are all made in reference to things existing outside us, and are meant to be representations of substances as they really are. So they are real only insofar as they are combinations of simple ideas that are really united and coexist in things outside us. On the other hand, those are fantastical that are made up of collections of simple ideas that were never really united, never found together in any substance. For example,

a rational creature consisting of a horse's head joined to a body of human shape, as the centaurs are described; or a body that is yellow, very malleable, fusible, and fixed, but lighter than ordinary water; or a uniform, unorganized body, consisting, as far as the senses can tell, entirely of similar parts, with perception and voluntary motion joined to it.

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Whether such substances as these can possibly exist or no, it is probable we do not know: but be that as it will, these ideas of substances being made conformable to no pattern existing that we know, and consisting of such collections of ideas as no substance ever showed us united together, they ought to pass with us for barely imaginary: but much more are those complex ideas so, which contain in them any inconsistency or contradiction of their parts.

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Whether such substances as these can possibly exist or not, we probably do not know. But however that may be, these ideas of substances conform to no existing pattern that we know of, and consist of collections of ideas that no substance has ever shown us united together, so we ought to regard them as merely imaginary. But complex ideas that contain any inconsistency or contradiction among their parts are imaginary much more so.

ADEQUATE AND INADEQUATE IDEAS

Simple ideas and modes are adequate; ideas of substances never fully represent their archetypes.

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2.31.1 *Adequate ideas are such as perfectly represent their archetypes.*—Of our real ideas, some are adequate and some are inadequate. Those I call adequate, which perfectly represent those archetypes which the mind supposes them taken from; which it intends them to stand for, and to which it refers them. Inadequate ideas are such which are but a partial or incomplete representation of those archetypes to which they are referred. Upon which account it is plain,

2.31.2 *Simple ideas all adequate.*—First, that all our simple ideas are adequate: because, being nothing but the effects of certain powers in things, fitted and ordained by God to produce such sensations in us, they cannot but be correspondent and adequate to those powers; and we are sure they agree to the reality of things. For if sugar produce in us the ideas which we call whiteness and sweetness, we are sure there is a power in sugar to produce those ideas in our minds, or else they could not have been produced by it.

And so each sensation answering the power that operates on any of our senses, the idea so produced is a real idea (and not a fiction of the mind, which has no power to produce any simple idea), and cannot but be adequate, since it ought only to answer that power; and so all simple ideas are adequate. It is true, the things producing in us these simple ideas, are but few of them denominated by us as if they were only the causes of them, but as if those ideas were real beings in them.

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Adequate ideas are such as perfectly represent their archetypes.—Of our real ideas, some are adequate and some are inadequate. I call those adequate which perfectly represent the archetypes the mind supposes them taken from, which it intends them to stand for, and to which it refers them. Inadequate ideas are those which are only a partial or incomplete representation of the archetypes to which they are referred. On this account it is plain,

Simple ideas all adequate.—First, that all our simple ideas are adequate. They are nothing but the effects of certain powers in things, fitted and ordained by God to produce such sensations in us, and so they cannot fail to correspond to those powers and be adequate to them. We are sure they agree with the reality of things. For if sugar produces in us the ideas we call whiteness and sweetness, we are sure there is a power in sugar to produce those ideas in our minds; otherwise they could not have been produced by it.

Each sensation answers to the power that operates on one of our senses. So the idea produced in this way is a real idea (and not a fiction of the mind, which has no power to produce any simple idea). It cannot fail to be adequate, since all it has to do is answer to that power. So all simple ideas are adequate. It is true that we name only a few of the things that produce these simple ideas in us as if they were merely the causes of them. For the most part we speak as if those ideas were real beings in them.

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For though fire be called painful to the touch, whereby is signified the power of producing in us the idea of pain, yet it is denominated also light and heat; as if light and heat were really something in the fire more than a power to excite these ideas in us, and therefore are called qualities in, or of the fire. But these being nothing, in truth, but powers to excite such ideas in us, I must in that sense be understood when I speak of secondary qualities, as being in things; or of their ideas, as being in the objects that excite them in us.

Such ways of speaking, though accommodated to the vulgar notions, without which one cannot be well understood, yet truly signify nothing but those powers which are in things to excite certain sensations or ideas in us: since were there no fit organs to receive the impressions fire makes on the sight and touch, nor a mind joined to those organs to receive the ideas of light and heat by those impressions from the fire or sun, there would yet be no more light or heat in the world than there would be pain, if there were no sensible creature to feel it, though the sun should continue just as it is now, and mount Etna flame higher than ever it did.

Solidity and extension, and the termination of it, figure, with motion and rest, whereof we have the ideas, would be really in the world as they are, whether there were any sensible being to perceive them or no; and therefore we have reason to look on those as the real modifications of matter, and such are the exciting causes of all our various sensations from bodies. But this being an inquiry not belonging to this place, I shall enter no farther into it, but proceed to show what complex ideas are adequate, and what not.

2.31.3 *Modes are all adequate.*—Secondly, our complex ideas of modes being voluntary collections of simple ideas, which the mind puts together without reference to any real archetypes or standing patterns existing any where, are and cannot but be adequate ideas. Because they not being intended for copies of things really existing, but for archetypes made by the mind to rank and denominate things by, cannot want any thing; they having each of them that combination of ideas, and thereby that perfection which the mind intended they should, so that the mind

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For though fire is called painful to the touch, which means its power of producing in us the idea of pain, it is also called light and hot. We speak as if light and heat were really something in the fire beyond a power to excite these ideas in us, and so they are called qualities in, or of, the fire. But in truth these are nothing but powers to excite such ideas in us. So I must be understood in that sense when I speak of secondary qualities as being in things, or of their ideas as being in the objects that excite them in us.

Such ways of speaking are fitted to popular notions, and without them one cannot be well understood. Yet they really signify nothing but the powers in things to excite certain sensations or ideas in us. Suppose there were no fit organs to receive the impressions that fire makes on sight and touch, and no mind joined to those organs to receive the ideas of light and heat through those impressions from the fire or the sun. Then there would be no more light or heat in the world than there would be pain if there were no sentient creature to feel it. This would hold even if the sun continued just as it is now, and Mount Etna flamed higher than it ever has.

Solidity and extension, and the termination of extension, which is figure, together with motion and rest, are things of which we have the ideas. These would really be in the world as they are, whether or not there were any sentient being to perceive them. So we have reason to regard these as the real modifications of matter, and as the exciting causes of all our various sensations from bodies. But this inquiry does not belong here, so I shall go no further into it. I shall proceed to show which complex ideas are adequate and which are not.

Modes are all adequate.—Secondly, our complex ideas of modes are voluntary collections of simple ideas, which the mind puts together without reference to any real archetypes or standing patterns existing anywhere. So they are adequate ideas and cannot fail to be. They are not intended as copies of things that really exist, but as archetypes made by the mind to rank and name things by, and so they cannot lack anything. Each of them has the combination of ideas, and so the perfection, that the mind intended it to have. The mind therefore

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acquiesces in them, and can find nothing wanting.

Thus, by having the idea of a figure, with three sides meeting at three angles, I have a complete idea, wherein I require nothing else to make it perfect. That the mind is satisfied with the perfection of this its idea, is plain in that it does not conceive that any understanding hath, or can have, a more complete or perfect idea of that thing it signifies by the word triangle, supposing it to exist, than itself has in that complex idea of three sides and three angles, in which is contained all that is or can be essential to it, or necessary to complete it, wherever or however it exists. But in our ideas of substances it is otherwise.

For there desiring to copy things as they really do exist, and to represent to ourselves that constitution on which all their properties depend, we perceive our ideas attain not that perfection we intend; we find they still want something we should be glad were in them, and so are all inadequate. But mixed modes and relations, being archetypes without patterns, and so having nothing to represent but themselves, cannot but be adequate, every thing being so to itself.

He that at first put together the idea of danger, perceived absence of disorder from fear, sedate consideration of what was justly to be done, and executing that without disturbance, or being deterred by the danger of it, had certainly in his mind that complex idea made up of that combination; and intending it to be nothing else but what it is, nor to have in it any other simple ideas but what it hath, it could not also but be an adequate idea: and laying this up in his memory, with the name courage annexed to it, to signify to others, and denominate from thence any action he should observe to agree with it, had thereby a standard to measure and denominate actions by, as they agreed to it.

This idea thus made, and laid up for a pattern, must necessarily be adequate, being referred to nothing else but itself, nor made by any other original, but the good liking and will of him that first made this combination.

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rests satisfied with them and can find nothing missing.

Thus, by having the idea of a figure with three sides meeting at three angles, I have a complete idea, and I require nothing else to make it perfect. It is plain that the mind is satisfied with the perfection of this idea of its own, because it does not conceive that any understanding has, or can have, a more complete or perfect idea of the thing it signifies by the word triangle (supposing it to exist). The mind's own complex idea of three sides and three angles contains all that is or can be essential to that thing, or necessary to complete it, wherever or however it exists. But with our ideas of substances it is otherwise.

For there we want to copy things as they really exist, and to represent to ourselves the constitution on which all their properties depend. We perceive that our ideas do not reach the perfection we intend. We find they always lack something we would be glad to have in them, and so they are all inadequate. But mixed modes and relations are archetypes without patterns, and so they have nothing to represent but themselves. They cannot fail to be adequate, since everything is adequate to itself.

Take the man who first put together the idea of perceived danger, absence of the disorder that comes from fear, calm consideration of what was justly to be done, and carrying that out without being disturbed or deterred by the danger of it. He certainly had in his mind the complex idea made up of that combination. He intended it to be nothing else but what it is, and to contain no other simple ideas than those it has, so it could not fail to be an adequate idea. He stored it in his memory with the name courage attached to it, to signify it to others and to name by it any action he should observe to agree with it. He thereby had a standard by which to measure and name actions, according as they agreed with it.

This idea, made in this way and stored up as a pattern, must necessarily be adequate. It is referred to nothing but itself, and it was made from no other original than the liking and will of the man who first made this combination.

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Modes, in reference to settled names, may be inadequate.—Indeed another coming after, and in conversation learning from him the word courage, may make an idea to which he gives the name courage, different from what the first author applied it to, and has in his mind when he uses it.

And in this case, if he designs that his idea in thinking should be conformable to the other's idea, as the name he uses in speaking is conformable in sound to his, from whom he learned it, his idea may be very wrong and inadequate: because, in this case, making the other man's idea the pattern of his idea in thinking, as the other man's word or sound is the pattern of his in speaking, his idea is so far defective and inadequate, as it is distant from the archetype and pattern he refers it to, and intends to express and signify by the name he uses for it; which name he would have to be a sign of the other man's idea (to which, in its proper use, it is primarily annexed) and of his own, as agreeing to it: to which, if his own does not exactly correspond, it is faulty and inadequate.

2.31.5 Therefore these complex ideas of modes, when they are referred by the mind, and intended to correspond to the ideas in the mind of some other intelligent being, expressed by the names we apply to them, they may be very deficient, wrong, and inadequate; because they agree not to that which the mind designs to be their archetype and pattern; in which respect only, any idea of modes can be wrong, imperfect, or inadequate. And on this account our ideas of mixed modes are the most liable to be faulty of any other; but this refers more to proper speaking than knowing right.

2.31.6 *Ideas of substances, as referred to real essences, not adequate.*—Thirdly, what ideas we have of substances, I have above shown. Now, those ideas have in the mind a double reference: 1. Sometimes they are referred to a supposed real essence of each species of things. 2. Sometimes they are only designed to be pictures and representations in the mind, of things that do exist by ideas of those qualities that are discoverable in them. In both which ways these

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Modes, in reference to settled names, may be inadequate.—It is true that another man may come after him and learn the word courage from him in conversation. This second man may make an idea to which he gives the name courage, but which differs from the idea the first author applied it to and has in his mind when he uses it.

In this case, suppose he means his idea in thinking to conform to the other man's idea, just as the name he uses in speaking conforms in sound to the name used by the man he learned it from. Then his idea may be very wrong and inadequate. For he makes the other man's idea the pattern of his own idea in thinking, as the other man's word or sound is the pattern of his in speaking. His idea is therefore defective and inadequate to the extent that it falls short of the archetype and pattern he refers it to, which he intends to express and signify by the name he uses for it. He wants that name to be a sign of the other man's idea (to which, in its proper use, it is primarily attached), and of his own idea as agreeing with it. If his own does not exactly correspond to it, his idea is faulty and inadequate.

Therefore, when the mind refers these complex ideas of modes to the ideas in the mind of some other intelligent being, expressed by the names we apply to them, and intends them to correspond to those ideas, they may be very deficient, wrong, and inadequate. This is because they do not agree with what the mind designs to be their archetype and pattern. This is the only respect in which any idea of modes can be wrong, imperfect, or inadequate. And on this account our ideas of mixed modes are more liable to be faulty than any others. But this concerns speaking properly more than knowing rightly.

Ideas of substances, as referred to real essences, not adequate.—Thirdly, I have shown above what ideas we have of substances. These ideas have a double reference in the mind. 1. Sometimes they are referred to a supposed real essence of each species of things. 2. Sometimes they are meant only as pictures and representations in the mind of things that do exist, made from ideas of the qualities that can be discovered in them. In both these ways, these copies of those originals and archetypes are imperfect and inadequate.

copies of those originals and archetypes are imperfect and inadequate.

First, it is usual for men to make the names of substances stand for things, as supposed to have certain real essences, whereby they are of this or that species: and names standing for nothing but the ideas that are in men's minds, they must consequently refer their ideas to such real essences as to their archetypes. That men (especially such as have been bred up in the learning taught in this part of the world) do suppose certain specific essences of substances, which each individual, in its several kinds, is made conformable to, and partakes of, is so far from needing proof, that it will be thought strange if any one should do otherwise.

And thus they ordinarily apply the specific names they rank particular substances under to things as distinguished by such specific real essences. Who is there almost, who would not take it amiss, if it should be doubted, whether he called himself a man, with any other meaning, than as having the real essence of a man? And yet if you demand what those real essences are, it is plain men are ignorant, and know them not. From whence it follows, that the ideas they have in their minds, being referred to real essences, as to archetypes which are unknown, must be so far from being adequate, that they cannot be supposed to be any representation of them at all.

The complex ideas we have of substances are, as it has been shown, certain collections of simple ideas that have been observed or supposed constantly to exist together. But such a complex idea cannot be the real essence of any substance; for then the properties we discover in that body would depend on that complex idea, and be deducible from it, and their necessary connexion with it be known: as all properties of a triangle depend on, and as far as they are discoverable, are deducible from, the complex idea of three lines, including a space.

But it is plain, that in our complex ideas of substances, are not contained such ideas, on which all the other qualities that are to be found in them do depend. The common idea men have of iron, is a body of a certain colour, weight and hardness; and a property that they look on as belonging to it, is malleableness. But yet this

First, men usually make the names of substances stand for things that are supposed to have certain real essences, by which they belong to this or that species. And since names stand for nothing but the ideas in men's minds, men must consequently refer their ideas to such real essences as their archetypes. Men do suppose that substances have certain specific essences, which each individual of the several kinds is made to conform to and partakes of. This is especially true of those brought up in the learning taught in this part of the world. The point is so far from needing proof that people will think it strange if anyone supposes otherwise.

And so men ordinarily apply the specific names under which they rank particular substances to things as distinguished by such specific real essences. There is scarcely anyone who would not take offense if someone doubted whether he called himself a man with any other meaning than that he has the real essence of a man. And yet if you ask what these real essences are, it is plain that men are ignorant of them and do not know them. It follows that the ideas in their minds are referred to real essences as to archetypes that are unknown. Such ideas are so far from being adequate that they cannot be supposed to represent those essences at all.

The complex ideas we have of substances are, as has been shown, certain collections of simple ideas that have been observed or supposed to exist together constantly. But such a complex idea cannot be the real essence of any substance. If it were, the properties we discover in that body would depend on that complex idea and be deducible from it, and their necessary connection with it would be known. All the properties of a triangle depend in this way on the complex idea of three lines enclosing a space, and as far as they can be discovered, they are deducible from it.

But it is plain that our complex ideas of substances do not contain ideas on which all the other qualities found in them depend. The common idea men have of iron is of a body of a certain color, weight, and hardness, and they regard malleability as a property belonging to it. Yet this property has no necessary connection with that complex idea or

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property has no necessary connexion with that complex idea, or any part of it; and there is no more reason to think that malleableness depends on that colour, weight and hardness; than that that colour, or that weight depends on its malleableness.

And yet, though we know nothing of these real essences, there is nothing more ordinary, than that men should attribute the sorts of things to such essences. The particular parcel of matter, which makes the ring I have on my finger, is forwardly, by most men, supposed to have a real essence, whereby it is gold, and from whence those qualities flow which I find in it, viz. its peculiar colour, weight, hardness, fusibility, fixedness, and change of colour upon a slight touch of mercury, &c.

This essence, from which all these properties flow, when I inquire into it, and search after it, I plainly perceive I cannot discover; the farthest I can go, is only to presume, that it being nothing but body, its real essence, or internal constitution, on which these qualities depend, can be nothing but the figure, size, and connexion of its solid parts; of neither of which having any distinct perception at all, can I have any idea of its essence, which is the cause that it has that particular shining yellowness, a greater weight than any thing I know of the same bulk, and a fitness to have its colour changed by the touch of quicksilver.

If any one will say, that the real essence and internal constitution, on which these properties depend, is not the figure, size and arrangement or connexion of its solid parts, but something else, called its particular form, I am farther from having any idea of its real essence than I was before: for I have an idea of figure, size, and situation of solid parts in general, though I have none of the particular figure, size, or putting together of parts, whereby the qualities above mentioned are produced; which qualities I find in that particular parcel of matter that is on my finger, and not in another parcel of matter, with which I cut the pen I write with.

But when I am told that something besides the figure, size and posture of the solid parts of that body is its essence, something called substantial form of that I confess I have no idea at all, but only of the sound form, which is far enough from

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any part of it. There is no more reason to think that malleability depends on that color, weight, and hardness than to think that the color or the weight depends on its malleability.

And yet, though we know nothing of these real essences, nothing is more common than for men to attribute the sorts of things to such essences. Take the particular parcel of matter that makes up the ring I have on my finger. Most men readily suppose that it has a real essence by which it is gold, and from which flow the qualities I find in it. These are its peculiar color, weight, hardness, fusibility, fixedness, and change of color at a slight touch of mercury, etc.

When I inquire into this essence from which all these properties flow, and search for it, I plainly perceive that I cannot discover it. The furthest I can go is to presume that, since it is nothing but body, its real essence or internal constitution, on which these qualities depend, can be nothing but the figure, size, and connection of its solid parts. I have no distinct perception at all of any of these, so I can have no idea of its essence. That essence is the cause of its particular shining yellowness, its greater weight than anything else I know of the same bulk, and its fitness to have its color changed by the touch of quicksilver.

Someone may say that the real essence and internal constitution on which these properties depend is not the figure, size, and arrangement or connection of its solid parts, but something else, called its particular form. In that case I am further from having any idea of its real essence than I was before. For I do have an idea of the figure, size, and situation of solid parts in general. What I lack is any idea of the particular figure, size, or arrangement of parts by which the qualities mentioned above are produced. I find those qualities in the particular parcel of matter on my finger, and not in another parcel of matter with which I cut the pen I write with.

But suppose I am told that the essence of that body is something other than the figure, size, and position of its solid parts, something called "substantial form." I confess I have no idea of that at all. I

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an idea of its real essence or constitution. The like ignorance as I have of the real essence of this particular substance, I have also of the real essence of all other natural ones; of which essences, I confess, I have no distinct ideas at all and I am apt to suppose others, when they examine their own knowledge, will find in themselves, in this one point, the same sort of ignorance.

2.31.7 Now, then, when men apply to this particular parcel of matter on my finger, a general name already in use, and denominate it gold, do they not ordinarily, or are they not understood to give it that name as belonging to a particular species of bodies, having a real internal essence; by having of which essence, this particular substance comes to be of that species, and to be called by that name? If it be so, as it is plain it is, the name, by which things are marked, as having that essence, must be referred primarily to that essence; and consequently the idea to which that name is given must be referred also to the essence, and be intended to represent it.

Which essence, since they, who so use the names, know not their ideas of substances, must be all inadequate in that respect, as not containing in them that real essence which the mind intends they should.

2.31.8 *Ideas of substances, as collections of their qualities, are all inadequate.*—Secondly, those who, neglecting that useless supposition of unknown real essences, whereby they are distinguished, endeavour to copy the substances that exist in the world, by putting together the ideas of those sensible qualities that are found co-existing in them, though they come much nearer a likeness of them than those who imagine they know not what real specific essences; yet they arrive not at perfectly adequate ideas of those substances they would thus copy into their minds; nor do those copies exactly and fully contain all that is to be found in their archetypes.

Because those qualities and powers of substances, whereof we make their complex ideas, are so many and various, that no man's complex idea contains them all. That our abstract ideas of substances do not contain in them all the simple ideas that are united in the things themselves, it is

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have an idea only of the sound "form," which is far from being an idea of its real essence or constitution. My ignorance of the real essence of this particular substance extends to the real essence of all other natural substances. I confess I have no distinct ideas at all of those essences. And I am inclined to suppose that others, when they examine their own knowledge, will find in themselves the same sort of ignorance on this one point.

Now, then, when men apply a general name already in use to this particular parcel of matter on my finger, and call it gold, what do they mean? Do they not ordinarily give it that name as belonging to a particular species of bodies having a real internal essence? Or at least, are they not understood to do so? On this view, it is by having that essence that this particular substance comes to be of that species and to be called by that name. It plainly is so. If so, the name by which things are marked as having that essence must be referred primarily to that essence. Consequently, the idea to which that name is given must also be referred to the essence and be intended to represent it.

Those who use the names in this way do not know that essence. So their ideas of substances must all be inadequate in that respect, since they do not contain the real essence which the mind intends them to contain.

Ideas of substances, as collections of their qualities, are all inadequate.—Secondly, there are those who set aside that useless supposition of unknown real essences by which substances are distinguished. They try instead to copy the substances that exist in the world by putting together the ideas of the sensible qualities found coexisting in them. These come much nearer to a likeness of those substances than those who imagine they know not what real specific essences. Yet they still do not arrive at perfectly adequate ideas of the substances they would thus copy into their minds. Nor do those copies exactly and fully contain all that is to be found in their archetypes.

For the qualities and powers of substances, out of which we make our complex ideas of them, are so many and so various that no man's complex idea contains them all. Our abstract ideas of substances do not contain all the simple ideas that are united in the things themselves. This is evident

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evident, in that men do rarely put into their complex idea of any substance all the simple ideas they do know to exist in it.

Because endeavouring to make the signification of their specific names as clear and as little cumbersome as they can, they make their specific ideas of the sorts of substances, for the most part, of a few of those simple ideas which are to be found in them: but these having no original precedency, or right to be put in, and make the specific idea more than others that are left out, it is plain that both these ways our ideas of substances are deficient and inadequate.

These simple ideas, whereof we make our complex ones of substances, are all of them (bating only the figure and bulk of some sorts) powers, which being relations to other substances, we can never be sure that we know all the powers that are in any one body, till we have tried what changes it is fitted to give to, or receive from other substances, in their several ways of application: which being impossible to be tried upon any one body, much less upon all, it is impossible we should have adequate ideas of any substance made up of a collection of all its properties.

2.31.9 Whosoever first lit on a parcel of that sort of substance we denote by the word gold, could not rationally take the bulk and figure he observed in that lump to depend on its real essence or internal constitution. Therefore those never went into his idea of that species of body; but its peculiar colour, perhaps, and weight, were the first he abstracted from it to make the complex idea of that species. Which both are but powers; the one to affect our eyes after such a manner, and to produce in us that idea we call yellow; and the other to force upwards any other body of equal bulk, they being put into a pair of equal scales, one against another.

Another perhaps added to these the ideas of fusibility and fixedness, two other passive powers, in relation to the operation of fire upon it; another, its ductility and solubility in aq. regia, two other powers relating to the operation of other bodies, in changing its outward figure or separation of it into insensible parts. These, or parts of these, put together, usually make the

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because men rarely put into their complex idea of any substance even all the simple ideas they do know to exist in it.

For they try to make the meaning of their specific names as clear and as little cumbersome as they can. So they mostly make their specific ideas of the sorts of substances out of a few of the simple ideas found in them. But these few have no original precedence over the others that are left out, and no better right to be put in and make up the specific idea. It is plain, then, that in both these ways our ideas of substances are deficient and inadequate.

The simple ideas out of which we make our complex ideas of substances are all powers, apart from the figure and bulk of some sorts. Powers are relations to other substances, so we can never be sure we know all the powers in any one body until we have tried what changes it is fitted to give to, or receive from, other substances when applied to them in their several ways. This cannot possibly be tried on any one body, much less on all. So it is impossible for us to have adequate ideas of any substance that are made up of a collection of all its properties.

Whoever first came upon a parcel of the sort of substance we denote by the word gold could not rationally take the bulk and figure he observed in that lump to depend on its real essence or internal constitution. So those never went into his idea of that species of body. Rather, its peculiar color, perhaps, and its weight were the first qualities he abstracted from it to make the complex idea of that species. Both of these are only powers. The first is a power to affect our eyes in a certain way and produce in us the idea we call yellow. The second is a power to force upward any other body of equal bulk, when the two are put against each other in a pair of equal scales.

Another person perhaps added to these the ideas of fusibility and fixedness, two further passive powers relating to the operation of fire on it. Another added its ductility and its solubility in aqua regia, two other powers relating to the operation of other bodies in changing its outward figure or separating it into insensible parts. These, or some of these, put together usually make up the com-

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complex idea in men's minds, of that sort of body we call gold.

2.31.10 But no one, who hath considered the properties of bodies in general, or this sort in particular, can doubt that this called gold has infinite other properties not contained in that complex idea.

Some who have examined this species more accurately, could, I believe, enumerate ten times as many properties in gold, all of them as inseparable from its internal constitution as its colour or weight: and it is probable, if any one knew all the properties that are by divers men known of this metal, there would an hundred times as many ideas go to the complex idea of gold as any one man yet has in his; and yet perhaps that not be the thousandth part of what is to be discovered in it.

The changes which that one body is apt to receive, and make in other bodies upon a due application, exceeding far not only what we know, but what we are apt to imagine. Which will not appear so much a paradox to any one, who will but consider how far men are yet from knowing all the properties of that one, no very compound figure, a triangle; though it be no small number that are already by mathematicians discovered of it.

2.31.11 *Ideas of substances, as collections of their qualities, are all inadequate.*—So that all our complex ideas of substances are imperfect and inadequate. Which would be so also in mathematical figures, if we were to have our complex ideas of them only by collecting their properties in reference to other figures. How uncertain and imperfect would our ideas be of an ellipsis, if we had no other idea of it but some few of its properties? Whereas having in our plain idea the whole essence of that figure, we from thence discover those properties, and demonstratively see how they flow, and are inseparable from it.

2.31.12 *Simple ideas* ἔκτυπα, *and adequate.*—Thus the mind has three sorts of abstract ideas, or nominal essences:

First, simple ideas, which are ἔκτυπα, or copies, but yet certainly adequate. Because being intended to express nothing but the power in things to produce in the mind such a sensation,

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plex idea in men's minds of the sort of body we call gold.

But no one who has considered the properties of bodies in general, or of this sort in particular, can doubt that this thing called gold has an infinity of other properties not contained in that complex idea.

Some who have examined this species more carefully could, I believe, list ten times as many properties in gold, all of them as inseparable from its internal constitution as its color or weight. And suppose anyone knew all the properties of this metal that are known to various men. Then a hundred times as many ideas would probably go into his complex idea of gold as any one man yet has in his. And yet perhaps that would not be a thousandth part of what is to be discovered in it.

For the changes that this one body is apt to receive, and to make in other bodies when duly applied, far exceed not only what we know but what we are apt to imagine. This will not seem much of a paradox to anyone who considers how far men still are from knowing all the properties of one figure that is not very complex, a triangle. Yet mathematicians have already discovered no small number of them.

Ideas of substances, as collections of their qualities, are all inadequate.—So all our complex ideas of substances are imperfect and inadequate. The same would be true of mathematical figures if we had to get our complex ideas of them only by collecting their properties in relation to other figures. How uncertain and imperfect our ideas of an ellipse would be if we had no other idea of it than a few of its properties! As it is, our plain idea contains the whole essence of that figure. From it we discover those properties, and we see demonstratively how they flow from it and are inseparable from it.

Simple ideas ἔκτυπα, *and adequate.*—Thus the mind has three sorts of abstract ideas, or nominal essences:

First, simple ideas, which are ἔκτυπα, or copies, but are nonetheless certainly adequate. They are intended to express nothing but the power in things to produce such a sensation in the mind. So

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that sensation, when it is produced, cannot but be the effect of that power.

So the paper I write on, having the power, in the light (I speak according to the common notion of light) to produce in me the sensation which I call white, it cannot but be the effect of such a power, in something without the mind; since the mind has not the power to produce any such idea itself, and being meant for nothing else but the effect of such a power, that simple idea is real and adequate: the sensation of white, in my mind, being the effect of that power which is in the paper to produce it, is perfectly adequate to that power, or else that power would produce a different idea.

2.31.13 *Ideas of substances are* ἔκτυπα, *inadequate.*—Secondly, the complex ideas of substances are ectypes, copies too; but not perfect ones, not adequate; which is very evident to the mind, in that it plainly perceives that whatever collection of simple ideas it makes of any substance that exists, it cannot be sure that it exactly answers all that are in that substance; since not having tried all the operations of all other substances upon it, and found all the alterations it would receive from, or cause in other substances, it cannot have an exact adequate collection of all its active and passive capacities; and so not have an adequate complex idea of the powers of any substance existing, and its relations, which is that sort of complex idea of substances we have.

And, after all, if we could have, and actually had in our complex idea, an exact collection of all the secondary qualities or powers of any substance, we should not yet thereby have an idea of the essence of that thing. For since the powers or qualities that are observable by us, are not the real essence of that substance, but depend on it, and flow from it, any collection whatsoever of these qualities, cannot be the real essence of that thing. Whereby it is plain, that our ideas of substances are not adequate, are not what the mind intends them to be. Besides, a man has no idea of substance in general nor knows what substance is in itself.

2.31.14 *Ideas of modes and relations are archetypes, and cannot but be adequate.*—Thirdly, complex ideas of

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that sensation, when it is produced, cannot fail to be the effect of that power.

Thus the paper I write on has the power, in the light, to produce in me the sensation I call white. (I speak according to the common notion of light.) That sensation cannot fail to be the effect of such a power in something outside the mind, since the mind has no power to produce any such idea by itself. And since the idea is meant for nothing but the effect of such a power, that simple idea is real and adequate. The sensation of white in my mind is the effect of the power in the paper to produce it, and so it is perfectly adequate to that power. Otherwise that power would produce a different idea.

Ideas of substances are ἔκτυπα, *inadequate.*—Secondly, the complex ideas of substances are ectypes too, that is, copies. But they are not perfect copies, and not adequate. This is very evident to the mind. It plainly perceives that, whatever collection of simple ideas it makes of any existing substance, it cannot be sure that this collection exactly answers to all the simple ideas that are in that substance. For the mind has not tried all the operations of all other substances on it, and has not found all the alterations it would receive from other substances or cause in them. So it cannot have an exact, adequate collection of all its active and passive capacities. It therefore cannot have an adequate complex idea of the powers of any existing substance and of its relations, and that is the sort of complex idea of substances we have.

Suppose, after all, that we could have in our complex idea an exact collection of all the secondary qualities or powers of some substance, and actually had it. We still would not thereby have an idea of the essence of that thing. For the powers or qualities we can observe are not the real essence of that substance; they depend on it and flow from it. So no collection of these qualities whatever can be the real essence of that thing. It is plain from this that our ideas of substances are not adequate. They are not what the mind intends them to be. Besides, a man has no idea of substance in general, and does not know what substance is in itself.

Ideas of modes and relations are archetypes, and cannot but be adequate.—Thirdly, complex ideas of

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modes and relations are originals and archetypes; are not copies, nor made after the pattern of any real existence, to which the mind intends them to be conformable, and exactly to answer. These being such collections of simple ideas that the mind itself puts together, and such collections, that each of them contains in it precisely all that the mind intends it should, they are archetypes and essences of modes that may exist, and so are designed only for, and belong only to such modes, as when they do exist, have an exact conformity with those complex ideas. The ideas therefore of modes and relations cannot but be adequate.

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modes and relations are originals and archetypes. They are not copies. Nor are they made after the pattern of any real existence which the mind intends them to conform to and exactly answer. They are collections of simple ideas that the mind itself puts together, and each contains precisely all that the mind intends it to contain. So they are archetypes and essences of modes that may exist. They are designed only for such modes as conform exactly to those complex ideas when they do exist, and they belong only to such modes. The ideas of modes and relations, therefore, cannot fail to be adequate.

TRUE AND FALSE IDEAS

Locke argues that truth and falsehood belong to the tacit judgments made about ideas, not to ideas themselves.

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2.32.1 *Truth and falsehood properly belong to propositions.*— Though truth and falsehood belong, in propriety of speech, only to propositions, yet ideas are oftentimes termed true or false (as what words are there that are not used with great latitude, and with some deviation from their strict and proper significations?) Though, I think, that when ideas themselves are termed true or false, there is still some secret or tacit proposition, which is the foundation of that denomination: as we shall see, if we examine the particular occasions wherein they come to be called true or false. In all which we shall find some kind of affirmation or negation, which is the reason of that denomination.

For our ideas being nothing but bare appearances or perceptions in our minds, cannot properly and simply in themselves be said to be true or false, no more than a single name of any thing can be said to be true or false.

2.32.2 *Metaphysical truth contains a tacit proposition.*— Indeed both ideas and words may be said to be true in a metaphysical sense of the word truth, as all other things, that any way exist, are said to be true, *i. e.* really to be such as they exist. Though in things called true, even in that sense, there is perhaps a secret reference to our ideas looked upon as the standards of that truth, which amounts to a mental proposition, though it be usually not taken notice of.

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Truth and falsehood properly belong to propositions.— Strictly speaking, truth and falsehood belong only to propositions. Yet ideas are often called true or false, for what words are not used with great latitude, and with some deviation from their strict and proper meanings? Still, I think that when ideas themselves are called true or false, there is always some secret or tacit proposition that is the ground of that description. We shall see this if we examine the particular occasions on which they come to be called true or false. In all of them we shall find some kind of affirmation or negation, which is the reason for that description.

For our ideas are nothing but bare appearances or perceptions in our minds. So they cannot properly and simply in themselves be said to be true or false, any more than a single name of anything can be said to be true or false.

Metaphysical truth contains a tacit proposition.—It is true that both ideas and words may be said to be true in a metaphysical sense of the word truth. In that sense all other things that exist in any way are said to be true, that is, to be really such as they exist. Yet even in things called true in that sense, there is perhaps a secret reference to our ideas, regarded as the standards of that truth. This reference amounts to a mental proposition, though it usually goes unnoticed.

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2.32.3 *No idea, as an appearance in the mind, true or false.*— But it is not in that metaphysical sense of truth which we inquire here, when we examine whether our ideas are capable of being true or false, but in the more ordinary acceptation of those words: and so I say, that the ideas in our minds being only so many perceptions, or appearances there, none of them are false; the idea of a centaur having no more falsehood in it, when it appears in our minds, than the name centaur has falsehood in it when it is pronounced by our mouths or written on paper.

For truth or falsehood lying always in some affirmation, or negation, mental or verbal, our ideas are not capable, any of them, of being false, till the mind passes some judgment on them; that is, affirms or denies something of them.

2.32.4 *Ideas referred to any thing, may be true or false.*— Whenever the mind refers any of its ideas to any thing extraneous to them, they are then capable to be called true or false. Because the mind in such a reference makes a tacit supposition of their conformity to that thing; which supposition, as it happens to be true or false, so the ideas themselves come to be denominated. The most usual cases, wherein this happens, are these following:

2.32.5 *Other men's ideas, real existences, and supposed real essences, are what men usually refer their ideas to.*— First, when the mind supposes any idea it has conformable to that in other men's minds, called by the same common name; *v. g.* when the mind intends or judges its ideas of justice, temperance, religion, to be the same with what other men give those names to.

Secondly, when the mind supposes any idea it has in itself to be conformable to some real existence. Thus the two ideas of a man and a centaur, supposed to be the ideas of real substances, are the one true, and the other false; the one having a conformity to what has really existed, the other not.

Thirdly, when the mind refers any of its ideas to the real constitution and essence of any thing whereon all its properties depend: and thus the greatest part, if not all our ideas of substances, are false.

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No idea, as an appearance in the mind, true or false.— But when we examine here whether our ideas are capable of being true or false, we are not inquiring into that metaphysical sense of truth. We are inquiring into the more ordinary sense of those words. And in that sense I say that none of the ideas in our minds is false, since they are only so many perceptions or appearances there. The idea of a centaur has no more falsehood in it when it appears in our minds than the name centaur has when it is pronounced by our mouths or written on paper.

For truth or falsehood always lies in some affirmation or negation, mental or verbal. So none of our ideas is capable of being false until the mind passes some judgment on it, that is, affirms or denies something of it.

Ideas referred to any thing, may be true or false.— Whenever the mind refers any of its ideas to anything outside them, they are then capable of being called true or false. For in such a reference the mind makes a tacit supposition that they conform to that thing. If this supposition happens to be true, the ideas themselves come to be called true; if false, false. The most usual cases in which this happens are the following:

Other men's ideas, real existences, and supposed real essences are what men usually refer their ideas to.— First, when the mind supposes that an idea it has conforms to the idea in other men's minds that is called by the same common name. For example, the mind intends or judges its ideas of justice, temperance, and religion to be the same as the ideas to which other men give those names.

Secondly, when the mind supposes that an idea it has in itself conforms to some real existence. Take the two ideas of a man and of a centaur, supposed to be ideas of real substances. The first is true and the second false, because the first conforms to what has really existed and the second does not.

Thirdly, when the mind refers any of its ideas to the real constitution and essence of anything, on which all its properties depend. In this way the greatest part of our ideas of substances are false, if not all of them.

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2.32.6 *The cause of such references.*—These suppositions the mind is very apt tacitly to make concerning its own ideas. But yet, if we will examine it, we shall find it is chiefly, if not only, concerning its abstract complex ideas.

For the natural tendency of the mind being towards knowledge; and finding that, if it should proceed by and dwell upon any particular things, its progress would be very slow, and its work endless: therefore to shorten its way to knowledge, and make each perception more comprehensive; the first thing it does, as the foundation of the easier enlarging its knowledge, either by contemplation of the things themselves that it would know, or conference with others about them, is to bind them into bundles, and rank them so into sorts, that what knowledge it gets of any of them, it may thereby with assurance extend to all of that sort; and so advance by larger steps in that, which is its great business, knowledge.

This, as I have elsewhere shown, is the reason why we collect things under comprehensive ideas, with names annexed to them, into genera and species, *i. e.* into kinds and sorts.

2.32.7 If therefore we will warily attend to the motions of the mind, and observe what course it usually takes in its way to knowledge, we shall, I think, find that the mind having got any idea, which it thinks it may have use of, either in contemplation or discourse, the first thing it does is to abstract it, and then get a name to it; and so lay it up in its storehouse, the memory, as containing the essence of a sort of things, of which that name is always to be the mark.

Hence it is that we may often observe, that when any one sees a new thing of a kind that he knows not, he presently asks what it is, meaning by that inquiry nothing but the name. As if the name carried with it the knowledge of the species, or the essence of it: whereof it is indeed used as the mark, and is generally supposed annexed to it.

2.32.8 *The cause of such references.*—But this abstract idea being something in the mind between the thing that exists and the name that is given to it; it is in our ideas, that both the rightness of our knowledge, and the propriety or intelligibleness

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The cause of such references.—The mind is very apt to make these suppositions tacitly about its own ideas. But if we examine the matter, we shall find that it makes them chiefly, if not only, about its abstract complex ideas.

For the natural tendency of the mind is toward knowledge. The mind finds that if it proceeded by particular things and dwelt on them, its progress would be very slow and its work endless. So it looks for a way to shorten its path to knowledge and make each perception more comprehensive. It wants a foundation for enlarging its knowledge more easily, whether by contemplating the things it wants to know or by conferring with others about them. The first thing it does, then, is to bind things into bundles and rank them into sorts. In this way, whatever knowledge it gets of any of them it may confidently extend to all of that sort. And so it advances by larger steps in its great business, knowledge.

This, as I have shown elsewhere, is the reason why we collect things under comprehensive ideas, with names attached to them, into genera and species, that is, into kinds and sorts.

Suppose, then, we carefully attend to the motions of the mind, and observe what course it usually takes on its way to knowledge. We shall, I think, find that when the mind has got an idea it thinks it may have use for, either in contemplation or in discourse, the first thing it does is to abstract it and then get a name for it. It then stores it in its storehouse, the memory, as containing the essence of a sort of things, of which that name is always to be the mark.

Hence we may often observe that when anyone sees a new thing of a kind he does not know, he immediately asks what it is. By that question he means nothing but its name, as if the name carried with it the knowledge of the species, or of its essence. The name is indeed used as the mark of that essence, and is generally supposed to be attached to it.

The cause of such references.—But this abstract idea is something in the mind between the thing that exists and the name given to it. So it is in our ideas that both the rightness of our knowledge and the

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of our speaking, consists. And hence it is, that men are so forward to suppose, that the abstract ideas they have in their minds, are such as agree to the things existing without them, to which they are referred; and are the same also, to which the names they give them do, by the use and propriety of that language, belong.

For without this double conformity of their ideas, they find they should both think amiss of things in themselves, and talk of them unintelligibly to others.

2.32.9 *Simple ideas may be false, in reference to others of the same name, but are least liable to be so.*—First, then, I say, that when the truth of our ideas is judged of by the conformity they have to the ideas which other men have, and commonly signify by the same name, they may be any of them false.

But yet simple ideas are least of all liable to be so mistaken; because a man by his senses, and every day's observation, may easily satisfy himself what the simple ideas are which their several names that are in common use stand for, they being but few in number, and such as if he doubts or mistakes in, he may easily rectify, by the objects they are to be found in.

Therefore it is seldom that any one mistakes in his names of simple ideas, or applies the name red to the idea of green, or the name sweet to the idea bitter; much less are men apt to confound the names of ideas belonging to different senses, and call a colour by the name of a taste, &c.; whereby it is evident that the simple ideas they call by any name are commonly the same that others have and mean when they use the same names.

2.32.10 *Ideas of mixed modes most liable to be false in this sense.*—Complex ideas are much more liable to be false in this respect; and the complex ideas of mixed modes much more than those of substances: because in substances (especially those which the common and unborrowed names of any language are applied to) some remarkable sensible qualities, serving ordinarily to distinguish one sort from another, easily preserve those, who take any care in the use of their words, from applying them to sorts of substances to

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propriety or intelligibility of our speaking consist. This is why men are so quick to make a double supposition about the abstract ideas in their minds. They suppose that these ideas agree with the things existing outside them to which they are referred. They also suppose that these ideas are the same ones to which the names they give them belong, by the usage and propriety of that language.

For they find that without this double conformity of their ideas, they would both think wrongly of things in themselves and speak of them unintelligibly to others.

Simple ideas may be false, in reference to others of the same name, but are least liable to be so.—First, then, I say that any of our ideas may be false when their truth is judged by their conformity to the ideas which other men have and commonly signify by the same name.

But simple ideas are the least liable of all to be mistaken in this way. By his senses and everyday observation, a man can easily satisfy himself what simple ideas the various names in common use stand for. They are few in number, and if he doubts or makes a mistake about them, he can easily correct it by the objects in which they are found.

So it is seldom that anyone makes a mistake in his names of simple ideas, applying the name red to the idea of green, or the name sweet to the idea of bitter. Still less are men apt to confuse the names of ideas belonging to different senses, and call a color by the name of a taste, etc. From this it is evident that the simple ideas men call by any name are commonly the same ones that others have and mean when they use the same names.

Ideas of mixed modes most liable to be false in this sense.—Complex ideas are much more liable to be false in this respect, and the complex ideas of mixed modes much more than those of substances. In substances, some notable sensible qualities ordinarily serve to distinguish one sort from another. This is especially true of the substances to which the common, native names of a language are applied. These qualities easily keep those who take any care in the use of their words from applying them to sorts of substances to

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which they do not at all belong. But in mixed modes we are much more uncertain; it being not so easy to determine of several actions, whether they are to be called justice or cruelty, liberality or prodigality.

And so in referring our ideas to those of other men, called by the same names, ours may be false; and the idea in our minds, which we express by the word justice, may perhaps be that which ought to have another name.

2.32.11 *Or at least to be thought false.*—But whether or no our ideas of mixed modes are more liable than any sort to be different from those of other men, which are marked by the same names, this at least is certain, that this sort of falsehood is much more familiarly attributed to our ideas of mixed modes than to any other. When a man is thought to have a false idea of justice, or gratitude, or glory, it is for no other reason but that his agrees not with the ideas which each of those names are the signs of in other men.

2.32.12 *And why.*—The reason whereof seems to me to be this: that the abstract ideas of mixed modes being men's voluntary combinations of such a precise collection of simple ideas, and so the essence of each species being made by men alone, whereof we have no other sensible standard existing any where but the name itself, or the definition of that name,-we have nothing else to refer these our ideas of mixed modes to, as a standard to which we would conform them, but the ideas of those who are thought to use those names in their most proper significations; and so, as our ideas conform or differ from them, they pass for true or false.

And thus much concerning the truth and falsehood of our ideas, in reference to their names.

2.32.13 *As referred to real existences, none of our ideas can be false, but those of substances.*—Secondly, as to the truth and falsehood of our ideas, in reference to the real existence of things; when that is made the standard of their truth, none of them can be termed false, but only our complex ideas of substances.

2.32.14 *First, simple ideas in this sense not false, and why.*—First, our simple ideas being barely such

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which they do not belong at all. But with mixed modes we are much more uncertain. It is not so easy to decide, for many actions, whether they are to be called justice or cruelty, liberality or prodigality.

And so, when we refer our ideas to those of other men that are called by the same names, ours may be false. The idea in our minds which we express by the word justice may perhaps be one that ought to have another name.

Or at least to be thought false.—Perhaps our ideas of mixed modes are more liable than any other sort to differ from the ideas of other men marked by the same names, and perhaps not. But this at least is certain: this sort of falsehood is much more commonly attributed to our ideas of mixed modes than to any others. When a man is thought to have a false idea of justice, or gratitude, or glory, the only reason is that his idea does not agree with the ideas of which each of those names is the sign in other men.

And why.—The reason for this seems to me to be as follows. The abstract ideas of mixed modes are men's voluntary combinations of a precise collection of simple ideas. So the essence of each species is made by men alone, and it has no sensible standard existing anywhere except the name itself, or the definition of that name. We therefore have nothing else to refer these ideas of mixed modes to, as a standard for them to conform to, except the ideas of those who are thought to use those names in their most proper meanings. And so our ideas pass for true or false according as they conform to those ideas or differ from them.

So much for the truth and falsehood of our ideas in reference to their names.

As referred to real existences, none of our ideas can be false, but those of substances.—Secondly, we come to the truth and falsehood of our ideas in reference to the real existence of things. When that is made the standard of their truth, none of them can be called false except our complex ideas of substances.

First, simple ideas in this sense not false, and why.—First, our simple ideas are merely such percep-

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perceptions as God has fitted us to receive, and given power to external objects to produce in us by established laws and ways, suitable to his wisdom and goodness, though incomprehensible to us, their truth consists in nothing else but in such appearances as are produced in us, and must be suitable to those powers he has placed in external objects, or else they could not be produced in us: and thus answering those powers, they are what they should be, true ideas.

Nor do they become liable to any imputation of falsehood, if the mind (as in most men I believe it does) judges these ideas to be in the things themselves. For God, in his wisdom, having set them as marks of distinction in things, whereby we may be able to discern one thing from another, and so choose any of them for our uses, as we have occasion; it alters not the nature of our simple idea, whether we think that the idea of blue be in the violet itself, or in our mind only; and only the power of producing it by the texture of its parts, reflecting the particles of light after a certain manner, to be in the violet itself.

For that texture in the object, by a regular and constant operation, producing the same idea of blue in us, it serves us to distinguish by our eyes, that from any other thing, whether that distinguishing mark, as it is really in the violet, be only a peculiar texture of parts, or else that very colour, the idea whereof (which is in us) is the exact resemblance.

And it is equally from that appearance to be denominated blue, whether it be that real colour, or only a peculiar texture in it, that causes in us that idea: since the name blue notes properly nothing but that mark of distinction that is in a violet, discernible only by our eyes, whatever it consists in; that being beyond our capacities distinctly to know, and perhaps would be of less use to us if we had faculties to discern.

2.32.15 *Though one man's idea of blue should be different from another's.*—Neither would it carry any imputation of falsehood to our simple ideas, if, by the different structure of our organs, it were so ordered, that the same object should produce in several men's minds different ideas at the same time; *v. g.* if the idea that a violet produced in one

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tions as God has fitted us to receive. He has given external objects the power to produce them in us by established laws and ways, which suit his wisdom and goodness, though we cannot comprehend them. Their truth, therefore, consists in nothing else but the appearances produced in us. These appearances must be suited to the powers God has placed in external objects, or else they could not be produced in us. And since they answer to those powers in this way, they are what they should be: true ideas.

Nor do they become open to any charge of falsehood if the mind judges these ideas to be in the things themselves, as I believe most men's minds do. For God in his wisdom has set them as marks of distinction in things, so that we may be able to tell one thing from another, and so choose any of them for our uses as occasion requires. The nature of our simple idea is not altered, whichever way we think. We may think that the idea of blue is in the violet itself. Or we may think it is only in our mind, and that the violet itself has only the power of producing it, by the texture of its parts reflecting the particles of light in a certain way.

For that texture in the object produces the same idea of blue in us by a regular and constant operation. So it serves us to distinguish that thing by our eyes from any other thing. It does so whether that distinguishing mark, as it really is in the violet, is only a peculiar texture of parts, or is that very color of which the idea (which is in us) is the exact resemblance.

And the violet is equally to be called blue from that appearance, whether what causes that idea in us is that real color or only a peculiar texture in it. For the name blue properly denotes nothing but that mark of distinction in a violet which is discernible only by our eyes, whatever it consists in. What it consists in is beyond our capacity to know distinctly, and would perhaps be of less use to us if we had faculties to discern it.

Though one man's idea of blue should be different from another's.—Nor would our simple ideas be guilty of any falsehood if, because of the different structure of our organs, things were so arranged that the same object produced different ideas in several men's minds at the same time. For example, suppose the idea that a violet produced through the

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man's mind by his eyes, were the same that a marigold produced in another man's, and vice versa. For since this could never be known, because one man's mind could not pass into another man's body, to perceive what appearances were produced by those organs; neither the ideas hereby, nor the names, would be at all confounded, or any falsehood be in either.

For all things that had the texture of a violet, producing constantly the idea that he called blue; and those which had the texture of a marigold, producing constantly the idea which he as constantly called yellow; whatever those appearances were in his mind, he would be able as regularly to distinguish things for his use by those appearances, and understand and signify those distinctions marked by the names blue and yellow, as if the appearances, or ideas in his mind, received from those two flowers, were exactly the same with the ideas in other men's minds. I am nevertheless very apt to think that the sensible ideas produced by any object in different men's minds are most commonly very near and undiscernibly alike.

For which opinion, I think, there might be many reasons offered: but that being besides my present business, I shall not trouble my reader with them; but only mind him, that the contrary supposition, if it could be proved, is of little use, either for the improvement of our knowledge, or the conveniency of life; and so we need not trouble ourselves to examine it.

2.32.16 *First, simple ideas in this sense not false, and why.*— From what has been said concerning our simple ideas, I think it evident, that our simple ideas can none of them be false in respect of things existing without us. For the truth of these appearances, or perceptions in our minds, consisting, as has been said, only in their being answerable to the powers in external objects to produce by our senses such appearances in us;—and each of them being in the mind, such as it is, suitable to the power that produced it, and which alone it represents:—it cannot upon that account, or as referred to such a pattern, be false.

Blue or yellow, bitter or sweet, can never be false ideas: these perceptions in the mind are just such as they are there, answering the powers appointed by God to produce them; and so are

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eyes in one man's mind were the same as the one a marigold produced in another man's, and vice versa. This could never be known, because one man's mind could not pass into another man's body to perceive what appearances those organs produced. So neither the ideas nor the names would be confused in the least, and there would be no falsehood in either.

For all things that had the texture of a violet would constantly produce the idea he called blue, and those that had the texture of a marigold would constantly produce the idea he just as constantly called yellow. So, whatever those appearances were in his mind, he could distinguish things for his use by them just as regularly. He could also understand and signify the distinctions marked by the names blue and yellow, just as if the appearances, or ideas, that he received from those two flowers were exactly the same as the ideas in other men's minds. Nevertheless, I am strongly inclined to think that the sensible ideas produced by any object in different men's minds are most commonly very nearly alike, so alike that no one could tell them apart.

Many reasons could be offered for this opinion, I think. But since that is outside my present business, I will not trouble the reader with them. I will only remind him that the contrary supposition, even if it could be proved, is of little use either for improving our knowledge or for the conveniences of life, and so we need not trouble ourselves to examine it.

First, simple ideas in this sense not false, and why.— From what has been said about our simple ideas, I think it is evident that none of them can be false with respect to things existing outside us. The truth of these appearances, or perceptions in our minds, consists, as has been said, only in their answering to the powers in external objects to produce such appearances in us through our senses. And each of them, being in the mind just as it is, suits the power that produced it, which is all it represents. On that account, then, that is, as referred to such a pattern, it cannot be false.

Blue or yellow, bitter or sweet, can never be false ideas. These perceptions in the mind are just what they are there, answering to the powers God appointed to produce them, and so they are truly

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truly what they are and are intended to be. Indeed the names may be misapplied, but that in this respect makes no falsehood in the ideas; as if a man ignorant in the English tongue should call purple scarlet.

2.32.17 *Secondly, modes not false.*—Secondly, neither can our complex ideas of modes, in reference to the essence of any thing really existing, be false. Because whatever complex idea I have of any mode, it hath no reference to any pattern existing and made by nature: it is not supposed to contain in it any other ideas than what it hath; nor to represent any thing but such a complication of ideas as it does.

Thus when I have the idea of such an action of a man, who forbears to afford himself such meat, drink, and clothing, and other conveniences of life, as his riches and estate will be sufficient to supply, and his station requires, I have no false idea; but such an one as represents an action, either as I find or imagine it; and so is capable of neither truth nor falsehood.

But when I give the name frugality or virtue to this action, then it may be called a false idea, if thereby it be supposed to agree with that idea, to which, in propriety of speech, the name of frugality doth belong; or to be conformable to that law, which is the standard of virtue and vice.

2.32.18 *Thirdly, ideas of substances, when false.*—Thirdly, our complex ideas of substances being all referred to patterns in things themselves, may be false. That they are all false, when looked upon as the representations of the unknown essences of things, is so evident, that there needs nothing to be said of it. I shall therefore pass over that chimerical supposition, and consider them as collections of simple ideas in the mind, taken from combinations of simple ideas existing together, constantly in things, of which patterns they are the supposed copies: and in this reference of them to the existence of things they are false ideas. 1.

When they put together simple ideas, which in the real existence of things have no union; as when to the shape and size that exist together in a horse is joined, in the same complex idea, the power of barking like a dog; which three ideas,

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what they are and are meant to be. The names may indeed be misapplied, but in this respect that makes no falsehood in the ideas. It is like a man who does not know English calling purple scarlet.

Secondly, modes not false.—Secondly, our complex ideas of modes cannot be false either, in reference to the essence of anything really existing. For whatever complex idea I have of any mode, it has no reference to any pattern that exists and is made by nature. It is not supposed to contain any ideas other than the ones it has, or to represent anything except the particular combination of ideas that it does.

Take a man who refrains from allowing himself the food, drink, clothing, and other conveniences of life that his wealth and property are enough to supply and his station requires. When I have the idea of such an action, I have no false idea. I have one that represents an action, either as I find it or as I imagine it, and so it is capable of neither truth nor falsehood.

But when I give this action the name frugality or virtue, it may then be called a false idea. That happens if the name implies that it agrees with the idea to which, in proper usage, the name frugality belongs, or that it conforms to the law that is the standard of virtue and vice.

Thirdly, ideas of substances, when false.—Thirdly, our complex ideas of substances may be false, since they are all referred to patterns in things themselves. That they are all false when regarded as representations of the unknown essences of things is so evident that nothing needs to be said about it. I shall therefore pass over that fanciful supposition. Instead I will consider them as collections of simple ideas in the mind, taken from combinations of simple ideas that constantly exist together in things; these combinations are the patterns of which our ideas are supposed to be copies. When they are referred in this way to the existence of things, they are false ideas in the following cases. 1.

When they put together simple ideas that have no union in the real existence of things. Suppose someone joins the shape and size that exist together in a horse with the power of barking like a dog, all in the same complex idea. However these three

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however put together into one in the mind, were never united in nature; and this therefore may be called a false idea of a horse. 2. Ideas of substances are, in this respect, also false, when from any collection of simple ideas that do always exist together, there is separated, by a direct negation, any other simple idea which is constantly joined with them.

Thus, if to extension, solidity, fusibility, the peculiar weightiness and yellow colour of gold, any one join in his thoughts the negation of a greater degree of fixedness than is in lead or copper, he may be said to have a false complex idea, as well as when he joins to those other simple ones the idea of perfect absolute fixedness. For either way, the complex idea of gold being made up of such simple ones as have no union in nature, may be termed false.

But if we leave out of this his complex idea, that of fixedness quite, without either actually joining to, or separating of it from the rest in his mind, it is, I think, to be looked on as an inadequate and imperfect idea, rather than a false one; since, though it contains not all the simple ideas that are united in nature, yet it puts none together but what do really exist together.

2.32.19 *Truth or falsehood always supposes affirmation or negation.*—Though in compliance with the ordinary way of speaking I have showed in what sense and upon what ground our ideas may be sometimes called true or false, yet if we look a little nearer into the matter, in all cases where any idea is called true or false, it is from some judgment that the mind makes, or is supposed to make, that is true or false. For truth or falsehood being never without some affirmation or negation, express or tacit, it is not to be found but where signs are joined and separated, according to the agreement or disagreement of the things they stand for.

The signs we chiefly use are either ideas or words, wherewith we make either mental or verbal propositions. Truth lies in so joining or separating these representatives, as the things they stand for do in themselves agree or disagree; and falsehood in the contrary, as shall be more fully shown hereafter.

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ideas are put together into one in the mind, they were never united in nature, and so this may be called a false idea of a horse. 2. Ideas of substances are also false in this respect when some simple idea that is constantly joined with a collection of simple ideas that always exist together is separated from them by a direct negation.

Take the extension, solidity, fusibility, peculiar heaviness, and yellow color of gold. If someone joins to these in his thoughts the negation of any greater degree of fixedness than there is in lead or copper, he may be said to have a false complex idea. The same is true when he joins to those other simple ideas the idea of perfect, absolute fixedness. Either way, the complex idea of gold may be called false, because it is made up of simple ideas that have no union in nature.

But suppose he leaves fixedness out of his complex idea altogether, neither actually joining it to the rest in his mind nor separating it from them. Then I think it should be regarded as an inadequate and imperfect idea rather than a false one. For though it does not contain all the simple ideas that are united in nature, it puts together only those that really do exist together.

Truth or falsehood always supposes affirmation or negation.—In keeping with the ordinary way of speaking, I have shown in what sense and on what grounds our ideas may sometimes be called true or false. Still, if we look a little more closely into the matter, whenever an idea is called true or false, what is really true or false is some judgment that the mind makes, or is supposed to make. For truth or falsehood never exists without some affirmation or negation, express or tacit. So it is found only where signs are joined or separated according to the agreement or disagreement of the things they stand for.

The signs we chiefly use are either ideas or words, and with them we make either mental or verbal propositions. Truth lies in joining or separating these representatives just as the things they stand for agree or disagree in themselves. Falsehood lies in the contrary, as will be shown more fully later.

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Ideas in themselves neither true nor false.—Any idea then which we have in our minds, whether conformable or not to the existence of things, or to any idea in the minds of other men, cannot properly for this alone be called false. For these representations, if they have nothing in them but what is really existing in things without, cannot be thought false, being exact representations of something; nor yet, if they have any thing in them differing from the reality of things, can they properly be said to be false representations, or ideas of things they do not represent. But the mistake and falsehood is,

2.32.21 *But are false*—1. *When judged agreeable to another man's idea without being so.*—First, when the mind having any idea, it judges and concludes it the same that is in other men's minds, signified by the same name; or that it is conformable to the ordinary received signification or definition of that word, when indeed it is not: which is the most usual mistake in mixed modes, though other ideas also are liable to it.

2.32.22 2. *When judged to agree to real existence when they do not.*—Secondly, when it having a complex idea made up of such a collection of simple ones as nature never puts together, it judges it to agree to a species of creatures really existing; as when it joins the weight of tin to the colour, fusibility, and fixedness of gold.

2.32.23 3. *When judged adequate, without being so.*—Thirdly, when in its complex idea it has united a certain number of simple ideas that do really exist together in some sort of creatures, but has also left out others as much inseparable, it judges this to be a perfect complete idea of a sort of things which really it is not; *v. g.* having joined the ideas of substance, yellow, malleable, most heavy, and fusible, it takes that complex idea to be the complete idea of gold, when yet its peculiar fixedness and solubility in aqua regia are as inseparable from those other ideas or qualities of that body, as they are one from another.

2.32.24 4. *When judged to represent the real essence.*—Fourthly, the mistake is yet greater, when I judge that this complex idea contains in it the real essence of any body existing, when at least it

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Ideas in themselves neither true nor false.—So any idea we have in our minds cannot properly be called false for this reason alone, whether or not it conforms to the existence of things or to any idea in other men's minds. If these representations contain nothing but what really exists in things outside us, they cannot be thought false, since they are exact representations of something. And if they contain something that differs from the reality of things, they still cannot properly be called false representations, or ideas of things they do not represent. Rather, the mistake and falsehood lie in the following cases:

But are false—1. *When judged to agree with another man's idea without doing so.*—First, when the mind has some idea and judges and concludes that it is the same as the idea in other men's minds signified by the same name, or that it conforms to the ordinary accepted meaning or definition of that word, when in fact it does not. This is the most usual mistake in mixed modes, though other ideas are liable to it as well.

2. *When judged to agree with real existence when they do not.*—Secondly, when the mind has a complex idea made up of a collection of simple ideas that nature never puts together, and judges that it agrees with a species of creatures that really exists. An example is joining the weight of tin to the color, fusibility, and fixedness of gold.

3. *When judged adequate without being so.*—Thirdly, when the mind has united in its complex idea a certain number of simple ideas that really do exist together in some sort of creatures, but has left out others that are just as inseparable. It then judges this to be a perfect, complete idea of a sort of things, which it really is not. For example, having joined the ideas of substance, yellow, malleable, very heavy, and fusible, it takes that complex idea to be the complete idea of gold. Yet gold's peculiar fixedness and its solubility in aqua regia are as inseparable from those other ideas or qualities of that body as those are from one another.

4. *When judged to represent the real essence.*—Fourthly, the mistake is greater still when I judge that this complex idea contains the real essence of some existing body. At most it contains only a few

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contains but some few of those properties which flow from its real essence and constitution.

I say, only some few of those properties; for those properties consisting mostly in the active and passive powers it has, in reference to other things, all that are vulgarly known of any one body, of which the complex idea of that kind of things is usually made, are but a very few, in comparison of what a man, that has several ways tried and examined it, knows of that one sort of things: and all that the most expert man knows are but a few, in comparison of what are really in that body, and depend on its internal or essential constitution.

The essence of a triangle lies in a very little compass, consists in a very few ideas,—three lines including a space make up that essence,—but the properties that flow from this essence are more than can be easily known or enumerated. So I imagine it is in substances, their real essences lie in a little compass, though the properties flowing from that internal constitution are endless.

2.32.25 *Ideas, when false.*—To conclude, a man having no notion of any thing without him, but by the idea he has of it in his mind (which idea he has a power to call by what name he pleases,) he may indeed make an idea neither answering the reason of things, nor agreeing to the idea commonly signified by other people's words: but cannot make a wrong or false idea of a thing, which is no otherwise known to him but by the idea he has of it: v.

g. when I frame an idea of the legs, arms and body of a man, and join to this a horse's head and neck, I do not make a false idea of any thing; because it represents nothing without me. But when I call it a man or Tartar, and imagine it to represent some real being without me, or to be the same idea that others call by the same name; in either of these cases I may err. And upon this account it is that it comes to be termed a false idea; though indeed the falsehood lies not in the idea, but in that tacit mental proposition wherein a conformity and resemblance is attributed to it, which it has not.

But yet, if having framed such an idea in my mind, without thinking either that existence, or the name man or Tartar, belongs to it, I will call it

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of the properties that flow from that body's real essence and constitution.

I say only a few of those properties. For those properties consist mostly in the active and passive powers the body has in relation to other things. All the powers commonly known of any one body, from which the complex idea of that kind of thing is usually made, are very few compared with what a man who has tested and examined it in various ways knows of that one sort of thing. And all that the most expert man knows is only a little compared with what is really in that body and depends on its internal or essential constitution.

The essence of a triangle lies in a very small compass and consists of very few ideas: three lines enclosing a space make up that essence. But the properties that flow from this essence are more than can easily be known or listed. I imagine it is the same with substances. Their real essences lie in a small compass, though the properties flowing from that internal constitution are endless.

Ideas, when false.—To conclude: a man has no notion of anything outside him except through the idea of it that he has in his mind, and he has the power to call that idea by whatever name he pleases. So he may indeed make an idea that neither answers to the nature of things nor agrees with the idea commonly signified by other people's words. But he cannot make a wrong or false idea of a thing that he knows only through the idea he has of it. For example,

suppose I frame an idea of the legs, arms, and body of a man and join to it a horse's head and neck. I do not make a false idea of anything, because it represents nothing outside me. But suppose I call it a man or a Tartar, and imagine that it represents some real being outside me, or that it is the same idea that others call by the same name. In either of these cases I may be in error. This is how it comes to be called a false idea. In fact, though, the falsehood lies not in the idea but in the tacit mental proposition that attributes to it a conformity and resemblance it does not have.[29]

But suppose I have framed such an idea in my mind without thinking that existence, or the name man or Tartar, belongs to it, and I still choose to

29 "Tartar" was the common European name for the peoples of Central Asia and the Russian steppe.

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man or Tartar, I may be justly thought fantastical in the naming, but not erroneous in my judgment; nor the idea any way false.

2.32.26 *More properly to be called right or wrong.*—Upon the whole matter, I think that our ideas, as they are considered by the mind, either in reference to the proper signification of their names, or in reference to the reality of things, may very fitly be called right or wrong ideas, according as they agree or disagree to those patterns to which they are referred. But if any one had rather call them true or false, it is fit he use a liberty, which every one has, to call things by those names he thinks best; though, in propriety of speech, truth or falsehood will, I think, scarce agree to them, but as they, some way or other, virtually contain in them some mental proposition.

The ideas that are in a man's mind, simply considered, cannot be wrong, unless complex ones, wherein inconsistent parts are jumbled together. All other ideas are in themselves right, and the knowledge about them right and true knowledge: but when we come to refer them to any thing, as to their patterns and archetypes, then they are capable of being wrong, as far as they disagree with such archetypes.

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call it man or Tartar. Then I may justly be thought whimsical in my naming, but not mistaken in my judgment, and the idea is in no way false.

More properly to be called right or wrong.—All things considered, I think the best names for our ideas are right or wrong ideas, according as they agree or disagree with the patterns to which they are referred. That holds whether the mind considers them in reference to the proper meaning of their names or in reference to the reality of things. But if anyone prefers to call them true or false, it is fair that he use the liberty everyone has to call things by the names he thinks best. Still, in proper speech, I think truth or falsehood will hardly apply to them, except insofar as they in some way virtually contain some mental proposition.

The ideas in a man's mind, considered simply in themselves, cannot be wrong, except for complex ones in which inconsistent parts are jumbled together. All other ideas are right in themselves, and knowledge about them is right and true knowledge. But when we come to refer them to something as their patterns and archetypes, then they can be wrong, to the extent that they disagree with those archetypes.

THE ASSOCIATION OF IDEAS

Locke shows how chance and custom link unrelated ideas, causing antipathies, lasting fears and sectarian errors.

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2.33.1 *Something unreasonable in most men.*—There is scarce any one that does not observe something that seems odd to him, and is in itself really extravagant in the opinions, reasonings, and actions of other men. The least flaw of this kind, if at all different from his own, every one is quick-sighted enough to espy in another, and will by the authority of reason forwardly condemn, though he be guilty of much greater unreasonableness in his own tenets and conduct, which he never perceives, and will very hardly, if at all, be convinced of.

2.33.2 *Not wholly from self-love.*—This proceeds not wholly from self-love, though that has often a great hand in it. Men of fair minds, and not given up to the overweening of self-flattery, are frequently guilty of it; and in many cases one with amazement hears the arguings, and is

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Something unreasonable in most men.—There is hardly anyone who does not notice something in the opinions, reasonings, and actions of other men that seems odd to him and is really extravagant in itself. Everyone is sharp-sighted enough to spot the least flaw of this kind in another, if it differs at all from his own, and will readily condemn it on the authority of reason. Yet he himself is guilty of much greater unreasonableness in his own beliefs and conduct. He never perceives it, and can be convinced of it only with great difficulty, if at all.

Not wholly from self-love.—This does not come wholly from self-love, though that often has a large hand in it. Fair-minded men who are not given over to excessive self-flattery are frequently guilty of it. In many cases one listens with

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astonished at the obstinacy of a worthy man, who yields not to the evidence of reason, though laid before him as clear as daylight.

2.33.3 *Not from education.*—This sort of unreasonableness is usually imputed to education and prejudice, and for the most part truly enough, though that reaches not the bottom of the disease, nor shows distinctly enough whence it rises, or wherein it lies. Education is often rightly assigned for the cause, and prejudice is a good general name for the thing itself; but yet, I think, he ought to look a little farther, who would trace this sort of madness to the root it springs from, and so explain it, as to show whence this flaw has its original in very sober and rational minds, and wherein it consists.

2.33.4 *A degree of madness.*—I shall be pardoned for calling it by so harsh a name as madness, when it is considered, that opposition to reason deserves that name, and is really madness; and there is scarce a man so free from it, but that if he should always, on all occasions, argue or do as in some cases he constantly does, would not be thought fitter for Bedlam than civil conversation. I do not here mean when he is under the power of an unruly passion, but in the steady calm course of his life.

That which will yet more apologize for this harsh name, and ungrateful imputation on the greatest part of mankind, is, that inquiring a little by the by into the nature of madness, b. ii. c. xi. Sect. 13, I found it to spring from the very same root, and to depend on the very same cause we are here speaking of. This consideration of the thing itself, at a time when I thought not the least on the subject which I am now treating of, suggested it to me.

And if this be a weakness to which all men are so liable; if this be a taint which so universally infects mankind; the greater care should be taken to lay it open under its due name, thereby to excite the greater care in its prevention and cure.

2.33.5 *From a wrong connexion of ideas.*—Some of our ideas have a natural correspondence and connexion one with another: it is the office and excellency of our reason to trace these, and hold them together in that union and correspondence

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amazement to the arguments of a worthy man, and is astonished at his obstinacy, when he will not yield to the evidence of reason, though it is laid before him as clear as daylight.

Not from education.—This sort of unreasonableness is usually blamed on education and prejudice, and for the most part rightly enough. But that explanation does not reach the bottom of the disease, or show clearly enough where it comes from or what it consists in. Education is often rightly named as the cause, and prejudice is a good general name for the thing itself. Still, anyone who wants to trace this sort of madness to its root ought, I think, to look a little further. He should explain how this flaw originates in very sober and rational minds, and what it consists in.

A degree of madness.—I shall be pardoned for calling it by so harsh a name as madness when it is considered that opposition to reason deserves that name and really is madness. Hardly any man is so free of it that he would not be thought fitter for Bedlam than for civil company, if he always argued or acted as he constantly does in some cases. I do not mean when he is in the grip of some unruly passion, but in the steady, calm course of his life.

There is a further excuse for this harsh name, and for this unwelcome charge against most of mankind. When I inquired a little in passing into the nature of madness (Book II, Chapter 11, Section 13), I found it to spring from the very same root and to depend on the very same cause we are speaking of here. It was the consideration of the thing itself that suggested this to me, at a time when I was not thinking in the least of the subject I am now treating.

And if this is a weakness to which all men are so liable, a taint that infects mankind so universally, then all the more care should be taken to expose it under its proper name. That will stir up greater care in preventing and curing it.

From a wrong connection of ideas.—Some of our ideas have a natural correspondence and connection with one another. It is the task and excellence of our reason to trace these and hold them together in the union and correspondence that is groun-

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which is founded in their peculiar beings. Besides this, there is another connexion of ideas wholly owing to chance or custom: ideas, that in themselves are not at all of kin, come to be so united in some men's minds.

that it is very hard to separate them; they always keep in company, and the one no sooner at any time comes into the understanding, but its associate appears with it; and if they are more than two, which are thus united, the whole gang, always inseparable, show themselves together.

2.33.6 *This connexion how made.*—This strong combination of ideas, not allied by nature, the mind makes in itself either voluntarily or by chance; and hence it comes in different men to be very different, according to their different inclinations, education, interests, &c. Custom settles habits of thinking in the understanding, as well as of determining in the will, and of motions in the body; all which seem to be but trains of motion in the animal spirits, which, once set agoing, continue in the same steps they have been used to, which, by often treading, are worn into a smooth path, and the motion in it becomes easy, and as it were natural.

As far as we can comprehend thinking, thus ideas seem to be produced in our minds; or if they are not, this may serve to explain their following one another in an habitual train, when once they are put into their track, as well as it does to explain such motions of the body. A musician used to any tune will find, that let it but once begin in his head, the ideas of the several notes of it will follow one another orderly in his understanding, without any care or attention, as regularly as his fingers move orderly over the keys of the organ to play out the tune he has begun, though his unattentive thoughts be elsewhere a wandering.

Whether the natural cause of these ideas, as well as of that regular dancing of his fingers, be the motion of his animal spirits, I will not determine, how probable soever, by this instance, it appears to be so: but this may help us a little to conceive of intellectual habits, and of the tying together of ideas.

2.33.7 *Some antipathies an effect of it.*—That there are such associations of them made by custom in the minds of most men, I think nobody will question,

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ded in their particular natures. Besides this, there is another connection of ideas that is owed wholly to chance or custom. Ideas that in themselves are not related at all come to be so united in some men's minds

that it is very hard to separate them. They always keep company, and whenever one comes into the understanding, its associate appears with it. If more than two are united in this way, the whole gang, always inseparable, show up together.

This connection how made.—The mind makes this strong combination of ideas that are not allied by nature, either voluntarily or by chance. So it comes to be very different in different men, according to their different inclinations, education, interests, and so on. Custom settles habits of thinking in the understanding, just as it settles habits of determining in the will and of motion in the body. All of these seem to be nothing but trains of motion in the animal spirits. Once set going, these continue in the same steps they are used to. By frequent treading those steps are worn into a smooth path, and the motion along it becomes easy and, as it were, natural.

As far as we can comprehend thinking, this seems to be how ideas are produced in our minds. Even if it is not, it may serve to explain how ideas follow one another in a habitual train once they are put on their track, just as it explains such motions of the body. A musician who is used to a tune will find that once it begins in his head, the ideas of its notes follow one another in order in his understanding, without any care or attention. They follow as regularly as his fingers move in order over the keys of the organ to play out the tune he has begun, even while his inattentive thoughts wander elsewhere.

Whether the natural cause of these ideas, and of that regular dancing of his fingers, is the motion of his animal spirits, I will not decide, however probable this example makes it seem. But it may help us a little to conceive of intellectual habits and of the tying together of ideas.

Some antipathies an effect of it.—I think no one who has carefully considered himself or others will question that custom makes such associations of

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who has well considered himself or others; and to this, perhaps, might be justly attributed most of the sympathies and antipathies observable in men, which work as strongly, and produce as regular effects as if they were natural, and are therefore called so, though they at first had no other original but the accidental connexion of two ideas, which either the strength of the impression, or future indulgence so united, that they always afterward kept company together in that man's mind, as if they were but one idea.

I say most of the antipathies, I do not say all, for some of them are truly natural, depend upon our original constitution, and are born with us; but a great part of those, which are counted natural, would have been known to be from unheeded, though, perhaps, early impressions, or wanton fancies at first, which would have been acknowledged the original of them, if they had been warily observed.

A grown person surfeiting with honey, no sooner hears the name of it, but his fancy immediately carries sickness and qualms to his stomach, and he cannot bear the very idea of it; other ideas of dislike, and sickness, and vomiting, presently accompany it, and he is disturbed, but he knows from whence to date this weakness, and can tell how he got this indisposition. Had this happened to him by an overdose of honey, when a child, all the same effects would have followed, but the cause would have been mistaken, and the antipathy counted natural.

2.33.8 I mention this not out of any great necessity there is in this present argument, to distinguish nicely between natural and acquired antipathies; but I take notice of it for another purpose, viz. that those who have children, or the charge of their education, would think it worth their while diligently to watch, and carefully to prevent the undue connexion of ideas in the minds of young people.

This is the time most susceptible of lasting impressions; and though those relating to the health of the body are by discreet people minded and fenced against, yet I am apt to doubt, that those which relate more peculiarly to the mind, and terminate in the understanding or passions, have been much less heeded than the thing deserves: nay, those relating purely to the

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ideas in the minds of most men. Perhaps most of the sympathies and antipathies we observe in men might justly be attributed to this. They work as strongly and produce effects as regular as if they were natural, and so they are called natural. Yet at first they had no other origin than the accidental connection of two ideas. Either the strength of the impression or later indulgence united those ideas so firmly that they always kept company in that man's mind afterward, as if they were only one idea.

I say most of the antipathies, not all. Some of them are truly natural: they depend on our original constitution and are born with us. But many of those counted natural would have been recognized, if they had been carefully observed, as coming from unnoticed, though perhaps early, impressions, or from whimsical fancies at the start.

Take a grown man who has eaten too much honey. As soon as he hears its name, his imagination brings sickness and queasiness to his stomach, and he cannot bear the very idea of it. Other ideas of dislike, sickness, and vomiting at once accompany it, and he is upset. But he knows when this weakness began and can tell how he acquired the aversion. If this had happened to him from an overdose of honey when he was a child, all the same effects would have followed, but the cause would have been mistaken and the antipathy counted natural.

I mention this not because the present argument has any great need to distinguish precisely between natural and acquired antipathies. I note it for another purpose, namely, that those who have children, or who are in charge of their education, may think it worth their while to watch diligently and carefully prevent the improper connection of ideas in the minds of young people.

This is the age most susceptible to lasting impressions. Sensible people attend to and guard against the impressions that affect the health of the body. But I suspect that those relating more particularly to the mind, which end in the understanding or the passions, have been heeded much less than the matter deserves. Indeed, I suspect that most

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understanding, have, as I suspect, been by most men wholly overlooked.

2.33.9 *A great cause of errors.*—This wrong connexion in our minds of ideas, in themselves loose and independent one of another, has such an influence, and is of so great force to set us awry in our actions, as well moral as natural passions, reasonings, and notions themselves, that perhaps there is not any one thing that deserves more to be looked after.

2.33.10 *Instances.*—The ideas of goblins and sprights have really no more to do with darkness than light: yet let but a foolish maid inculcate these often on the mind of a child, and raise them there together, possibly he shall never be able to separate them again so long as he lives; but darkness shall for ever afterward bring with it those frightful ideas, and they shall be so joined that he can no more bear the one than the other.

2.33.11 A man receives a sensible injury from another, thinks on the man and that action over and over; and by ruminating on them strongly, or much in his mind, so cements those two ideas together, that he makes them almost one; never thinks on the man, but the pain and displeasure he suffered come into his mind with it, so that he scarce distinguishes them, but has as much an aversion for the one as the other. Thus hatreds are often begotten from slight and almost innocent occasions, and quarrels propagated and continued in the world.

2.33.12 A man has suffered pain or sickness in any place; he saw his friend die in such a room; though these have in nature nothing to do one with another, yet when the idea of the place occurs to his mind, it brings (the impression being once made) that of the pain and displeasure with it; he confounds them in his mind, and can as little bear the one as the other.

2.33.13 *Why time cures some disorders in the mind, which reason cannot.*—When this combination is settled, and while it lasts, it is not in the power of reason to help us, and relieve us from the effects of it. Ideas in our minds, when they are there, will operate according to their natures and circumstances; and here we see the cause why time cures certain affections, which reason,

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men have wholly overlooked those relating purely to the understanding.

A great cause of errors.—This wrong connection in our minds of ideas that in themselves are loose and independent of one another has great influence and power to lead us astray. It distorts our actions, moral as well as natural, and our passions, our reasonings, and even our notions themselves. Perhaps no single thing deserves more to be looked after.

Instances.—The ideas of goblins and sprites really have no more to do with darkness than with light. Yet let a foolish maidservant often press these ideas on a child's mind and raise them there together with darkness, and he may never be able to separate them again as long as he lives. Darkness will forever after bring those frightening ideas with it, and they will be so joined that he can no more bear the one than the other.

A man suffers a keenly felt injury from another and thinks over the man and that action again and again. By brooding on them intensely or at length, he cements those two ideas together so firmly that he makes them almost one. He never thinks of the man without the pain and displeasure he suffered coming into his mind as well. He hardly distinguishes them, and has as much aversion to the one as to the other. This is how hatreds are often bred from slight and almost innocent occasions, and how quarrels are spread and kept going in the world.

A man has suffered pain or sickness in some place, or he saw his friend die in a certain room. These things have nothing to do with one another in nature. Yet once the impression has been made, whenever the idea of the place comes to his mind it brings the idea of the pain and displeasure with it. He confuses them in his mind and can bear the one as little as the other.

Why time cures some disorders in the mind, which reason cannot.—When this combination is settled, and as long as it lasts, reason has no power to help us and relieve us from its effects. Ideas in our minds, once they are there, will operate according to their natures and circumstances. Here we see why time cures certain affections over which reas-

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though in the right, and allowed to be so, has not power over, nor is able against them to prevail with those who are apt to hearken to it in other cases.

The death of a child, that was the daily delight of his mother's eyes, and joy of her soul, rends from her heart the whole comfort of her life, and gives her all the torment imaginable; use the consolations of reason in this case, and you were as good preach ease to one on the rack, and hope to allay, by rational discourses, the pain of his joints tearing asunder.

Till time has by disuse separated the sense of that enjoyment, and its loss from the idea of the child returning to her memory, all representations, though ever so reasonable, are in vain; and therefore some, in whom the union between these ideas is never dissolved, spend their lives in mourning, and carry an incurable sorrow to their graves.

2.33.14 *Farther instances of the effect of the association of ideas.*—A friend of mine knew one perfectly cured of madness, by a very harsh and offensive operation. The gentleman, who was thus recovered, with great sense of gratitude and acknowledgment, owned the cure all his life after, as the greatest obligation he could have received; but whatever gratitude and reason suggested to him, he could never bear the sight of the operator: that image brought back with it the idea of that agony which he suffered from his hands, which was too mighty and intolerable for him to endure.

2.33.15 Many children imputing the pain they endured at school to their books they were corrected for, so join those ideas together, that a book becomes their aversion, and they are never reconciled to the study and use of them all their lives after: and thus reading becomes a torment to them, which otherwise possibly they might have made the greatest pleasure of their lives.

There are rooms convenient enough, that some men cannot study in, and fashions of vessels, which, though ever so clean and commodious, they cannot drink out of, and that by reason of some accidental ideas which are annexed to them, and make them offensive: and who is there that hath not observed some man to flag at the

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on has no power. Reason may be in the right, and be granted to be so, yet it cannot prevail against these affections, even with people who are inclined to listen to it in other cases.

A mother loses a child who was the daily delight of her eyes and the joy of her soul. The death tears the whole comfort of her life from her heart and gives her every torment imaginable. Try the consolations of reason in this case, and you might as well preach ease to someone on the rack, and hope to soothe with rational discourses the pain of his joints being torn apart.

Time, through disuse, must first separate the feeling of that enjoyment and its loss from the idea of the child as it returns to her memory. Until then, all appeals, however reasonable, are in vain. And so some people, in whom the union between these ideas is never dissolved, spend their lives in mourning and carry an incurable sorrow to their graves.

Further instances of the effect of the association of ideas.—A friend of mine knew a man who was completely cured of madness by a very harsh and painful operation. The gentleman who was thus restored acknowledged the cure with deep gratitude for the rest of his life, as the greatest favor he could have received. But whatever gratitude and reason told him, he could never bear the sight of the man who had operated on him. That image brought back with it the idea of the agony he had suffered at his hands, which was too overpowering and intolerable for him to endure.

Many children blame the pain they suffered at school on the books they were punished over. They join those ideas together so firmly that books become objects of aversion to them, and they are never reconciled to studying and using them for the rest of their lives. So reading becomes a torment to them, when otherwise they might perhaps have made it the greatest pleasure of their lives.

There are rooms, convenient enough, in which some men cannot study, and styles of drinking vessels they cannot drink from, however clean and handy. This is because some accidental ideas have become attached to them and make them offensive. And who has not observed some man lose heart at the sight or in the company of a certain

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appearance, or in the company of some certain person not otherwise superior to him, but because having once on some occasion got the ascendant, the idea of authority and distance goes along with that of the person, and he that has been thus subjected is not able to separate them?

2.33.16 Instances of this kind are so plentiful every where, that if I add one more, it is only for the pleasant oddness of it. It is of a young gentleman, who having learned to dance, and that to great perfection, there happened to stand an old trunk in the room where he learned. The idea of this remarkable piece of household stuff had so mixed itself with the turns and steps of all his dances, that though in that chamber he could dance excellently well, yet it was only whilst that trunk was there; nor could he perform well in any other place, unless that or some such other trunk had its due position in the room.

If this story shall be suspected to be dressed up with some comical circumstances, a little beyond precise nature, I answer for myself, that I had it some years since from a very sober and worthy man, upon his own knowledge, as I report it: and I dare say, there are very few inquisitive persons, who read this, who have not met with accounts, if not examples, of this nature, that may parallel, or at least justify this.

2.33.17 *Its influence on intellectual habits.*—Intellectual habits and defects this way contracted are not less frequent and powerful, though less observed. Let the ideas of being and matter be strongly joined either by education or much thought, whilst these are still combined in the mind, what notions, what reasonings will there be about separate spirits? Let custom from the very childhood have joined figure and shape to the idea of God, and what absurdities will that mind be liable to about the Deity?

Let the idea of infallibility be inseparably joined to any person, and these two constantly together possess the mind; and then one body, in two places at once, shall, unexamined, be swallowed for a certain truth, by an implicit faith, whenever that imagined infallible person dictates and demands assent without inquiry.

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person who is not otherwise his superior? It happens simply because that person once got the upper hand over him on some occasion. After that the idea of authority and distance goes along with the idea of the person, and the one who was thus subjected cannot separate them.

Instances of this kind are so plentiful everywhere that if I add one more, it is only for its amusing oddness. It concerns a young gentleman who learned to dance, and to great perfection, in a room where an old trunk happened to stand. The idea of this remarkable piece of furniture had so mixed itself with the turns and steps of all his dances that he could dance excellently in that room only while the trunk was there. Nor could he perform well anywhere else unless that trunk, or one like it, stood in its proper position in the room.

Someone may suspect that this story has been dressed up with some comic touches that go a little beyond strict fact. I answer for myself that I had it some years ago from a very sober and worthy man, on his own knowledge, just as I report it. And I dare say there are very few inquisitive readers who have not met with accounts, if not instances, of this kind that may match it, or at least support it.

Its influence on intellectual habits.—Intellectual habits and defects contracted in this way are no less frequent and powerful, though they are less observed. Let the ideas of being and matter be strongly joined, either by education or by much thinking. As long as they remain combined in the mind, what notions, what reasonings will there be about separate spirits? Let custom from earliest childhood have joined figure and shape to the idea of God, and what absurdities will that mind be liable to about the Deity?

Let the idea of infallibility be inseparably joined to some person, and let these two ideas constantly possess the mind together. Then one body in two places at once will be swallowed unexamined as a certain truth, by an implicit faith, whenever that supposedly infallible person dictates it and demands assent without inquiry.[30]

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2.33.18 *Observable in different sects.*—Some such wrong and unnatural combinations of ideas will be found to establish the irreconcileable opposition between different sects of philosophy and religion; for we cannot imagine every one of their followers to impose wilfully on himself, and knowingly refuse truth offered by plain reason. Interest, though it does a great deal in the case, yet cannot be thought to work whole societies of men to so universal a perverseness, as that every one of them, to a man, should knowingly maintain falsehood: some at least must be allowed to do what all pretend to, i.

e. to pursue truth sincerely; and therefore there must be something that blinds their understandings and makes them not see the falsehood of what they embrace for real truth. That which thus captivates their reasons, and leads men of sincerity blindfold from common sense, will, when examined, be found to be what we are speaking of; some independent ideas, of no alliance to one another, are by education, custom, and the constant din of their party, so coupled in their minds, that they always appear there together; and they can no more separate them in their thoughts, than if they were but one idea, and they operate as if they were so.

This gives sense to jargon, demonstration to absurdities, and consistency to nonsense, and is the foundation of the greatest, I had almost said, of all the errors in the world; or if it does not reach so far, it is at least the most dangerous one, since so far as it obtains, it hinders men from seeing and examining. When two things in themselves disjoined appear to the sight constantly united; if the eye sees these things rivetted, which are loose, where will you begin to rectify the mistakes that follow in two ideas, that they have been accustomed so to join in their minds, as to substitute one for the other, and, as I am apt to think, often without perceiving it themselves?

This, whilst they are under the deceit of it, makes them incapable of conviction, and they applaud themselves as zealous champions for truth, when indeed they are contending for error; and the

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Observable in different sects.—Some such wrong and unnatural combinations of ideas will be found to underlie the irreconcilable opposition between different sects of philosophy and religion. For we cannot imagine that every one of their followers deliberately deceives himself and knowingly refuses truth offered by plain reason. Self-interest does a great deal in the matter. Still, it cannot be thought to drive whole societies of men into so universal a perverseness that every single one of them knowingly maintains falsehood. At least some must be granted to do what all of them claim to do, that is,

to pursue truth sincerely. So there must be something that blinds their understandings and keeps them from seeing the falsehood of what they embrace as real truth. On examination, the thing that captivates their reason in this way, and leads sincere men blindfold away from common sense, will be found to be what we are speaking of. Some independent ideas, with no connection to one another, are so coupled in their minds by education, custom, and the constant din of their party that they always appear there together. They can no more separate them in their thoughts than if they were a single idea, and the ideas operate as if they were.

This gives sense to jargon, demonstration to absurdities, and consistency to nonsense. It is the foundation of the greatest of the errors in the world, and I had almost said of all of them. If it does not reach that far, it is at least the most dangerous one, since wherever it takes hold, it keeps men from seeing and examining. Suppose two things that are separate in themselves constantly appear united to the sight, so that the eye sees things riveted together that are really loose. Men become so used to joining two such ideas in their minds that they substitute one for the other, and, I am inclined to think, often without noticing it themselves. Where will you begin to correct the mistakes that follow?

While they are under this deception, it makes them incapable of being convinced. They congratulate themselves as zealous champions of truth

30 Locke alludes to the Roman Catholic doctrine of transubstantiation (Christ's body present on many altars at once), accepted on the authority of an infallible pope or church.

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confusion of two different ideas, which a customary connexion of them in their minds hath to them made in effect but one, fills their heads with false views, and their reasonings with false consequences.

2.33.19 *Conclusion.*—Having thus given an account of the original, sorts, and extent of our ideas, with several other considerations, about these (I know not whether I may say) instruments or materials of our knowledge; the method I at first proposed to myself would now require, that I should immediately proceed to show what use the understanding makes of them, and what knowledge we have by them.

This was that, which, in the first general view I had of this subject, was all that I thought I should have to do: but upon a nearer approach, I find that there is so close a connexion between ideas and words; and our abstract ideas and general words have so constant a relation one to another, that it is impossible to speak clearly and distinctly of our knowledge, which all consists in propositions, without considering, first, the nature, use, and signification of language; which, therefore, must be the business of the next book.

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when in fact they are fighting for error. A customary connection in their minds has in effect made two different ideas into one for them, and this confusion fills their heads with false views and their reasonings with false conclusions.

Conclusion.—I have now given an account of the origin, sorts, and extent of our ideas, along with several other considerations about these instruments or materials of our knowledge (if I may call them that). The method I first proposed to myself would now require me to go straight on to show what use the understanding makes of them and what knowledge we have by them.

When I first took a general view of this subject, this was all I thought I would have to do. But on a closer approach, I find a very close connection between ideas and words, and our abstract ideas and general words have so constant a relation to each other, that it is impossible to speak clearly and distinctly of our knowledge without first considering the nature, use, and signification of language, since all our knowledge consists in propositions. That, therefore, must be the business of the next book.

Book III: Of Words

How words signify ideas, general terms and abstraction, nominal and real essences, and the imperfections and abuses of language.

CHAPTER I. OF WORDS, OR LANGUAGE IN GENERAL.

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3.1.1 *Man fitted to form articulate sounds.*—God having designed man for a sociable creature, made him not only with an inclination, and under a necessity to have fellowship with those of his own kind, but furnished him also with language, which was to be the great instrument and common tie of society. Man, therefore, had by nature his organs so fashioned, as to be fit to frame articulate sounds, which we call words. But this was not enough to produce language; for parrots, and several other birds, will be taught to make articulate sounds distinct enough, which yet, by no means, are capable of language.

3.1.2 *To make them signs of ideas.*—Besides articulate sounds, therefore, it was farther necessary that he should be able to use these sounds as signs of internal conceptions; and to make them stand as marks for the ideas within his own mind, whereby they might be made known to others, and the thoughts of men's minds be conveyed from one to another.

3.1.3 *To make general signs.*—But neither was this sufficient to make words so useful as they ought to be. It is not enough for the perfection of language, that sounds can be made signs of ideas, unless those signs can be so made use of, as to comprehend several particular things; for the multiplication of words would have perplexed their use, had every particular thing need of a distinct name to be signified by.

To remedy this inconvenience, language had yet a farther improvement in the use of general terms, whereby one word was made to mark a multitude of particular existences: which advantageous use of sounds was obtained only by the difference of the ideas they were made signs of; those names becoming general, which are made to stand for

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Man fitted to form articulate sounds.—God designed man to be a sociable creature. So he made him with an inclination toward fellowship with his own kind and a need for it, and he also furnished him with language, which was to be the great instrument and common bond of society. By nature, therefore, man had his organs so shaped that he could form articulate sounds, which we call words. But this was not enough to produce language. Parrots and several other birds can be taught to make articulate sounds distinct enough, and yet they are by no means capable of language.

To make them signs of ideas.—Besides articulate sounds, then, man also needed to be able to use these sounds as signs of internal conceptions. He had to make them stand as marks for the ideas within his own mind, so that these might be made known to others and the thoughts of men's minds be conveyed from one to another.

To make general signs.—But even this was not enough to make words as useful as they ought to be. For the perfection of language, it is not enough that sounds can be made signs of ideas. Those signs must also be usable in a way that covers several particular things. If every particular thing needed a distinct name to signify it, the sheer number of words would have made them confusing to use.

To remedy this inconvenience, language was further improved by the use of general terms, so that one word was made to mark a multitude of particular existing things. This advantageous use of sounds came about only through the difference between the ideas they were made signs of. Names that are made to stand for general ideas become

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general ideas, and those remaining particular, where the ideas they are used for are particular.

3.1.4 Besides these names which stand for ideas, there be other words which men make use of, not to signify any idea, but the want or absence of some ideas simple or complex, or all ideas together; such as *nihil* in Latin, and in English *ignorance* and *barrenness*. All which negative or privative words cannot be said properly to belong to, or signify no ideas: for then they would be perfectly insignificant sounds; but they relate to positive ideas, and signify their absence.

3.1.5 *Words ultimately derived from such as signify sensible ideas.*—It may also lead us a little towards the original of all our notions and knowledge, if we remark how great a dependence our words have on common sensible ideas; and how those, which are made use of to stand for actions and notions quite removed from sense, have their rise from thence, and from obvious sensible ideas are transferred to more abstruse significations, and made to stand for ideas that come not under the cognizance of our senses; *v. g.* to imagine, apprehend, comprehend, adhere, conceive, instil, disgust, disturbance, tranquillity, &c. are all words taken from the operations of sensible things, and applied to certain modes of thinking.

Spirit, in its primary signification, is breath; angel, a messenger; and I doubt not, but if we could trace them to their sources, we should find, in all languages, the names, which stand for things that fall not under our senses, to have had their first rise from sensible ideas.

By which we may give some kind of guess, what kind of notions they were, and whence derived, which filled their minds, who were the first beginners of languages; and how nature, even in the naming of things, unawares suggested to men the originals and principles of all their knowledge; whilst to give names that might make known to others any operations they felt in themselves, or any other ideas that come not under their senses, they were fain to borrow words from ordinary known ideas of sensation, by that means to make others the more easily to conceive those operations they experimented in themselves, which made no outward sensible appearances:

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general, and names remain particular where the ideas they are used for are particular.

Besides these names that stand for ideas, men use other words that signify not any idea, but the lack or absence of some ideas, simple or complex, or of all ideas together. Examples are *nihil* in Latin, and in English *ignorance* and *barrenness*. None of these negative or privative words can properly be said to belong to no ideas or to signify no ideas, for then they would be perfectly meaningless sounds. Rather, they relate to positive ideas and signify their absence.

Words ultimately derived from such as signify sensible ideas.—It may also lead us a little way toward the origin of all our notions and knowledge if we notice how greatly our words depend on common sensible ideas. Words used for actions and notions quite removed from sense have their origin there. They are carried over from obvious sensible ideas to more abstruse meanings, and made to stand for ideas that our senses cannot take in. For example, imagine, apprehend, comprehend, adhere, conceive, instill, disgust, disturbance, tranquility, and so on, are all words taken from the operations of sensible things and applied to certain modes of thinking.

Spirit, in its primary meaning, is breath; angel, a messenger. I do not doubt that if we could trace such words to their sources, we would find the same in all languages: the names that stand for things our senses cannot perceive first arose from sensible ideas.

From this we may make some kind of guess at what notions filled the minds of those who first began languages, and where those notions came from. We may also see how nature, even in the naming of things, unwittingly suggested to men the origins and principles of all their knowledge. They wanted to give names that would make known to others the operations they felt in themselves, or any other ideas that do not come under their senses. To do so they had to borrow words from ordinary, familiar ideas of sensation. That way others could more easily conceive the operations they experienced in themselves, which made no outward sensible appearance:

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and then when they had got known and agreed names, to signify those internal operations of their own minds, they were sufficiently furnished to make known by words all their other ideas; since they could consist of nothing, but either of outward sensible perceptions, or of the inward operations of their minds about them: we having, as has been proved, no ideas at all, but what originally come either from sensible objects without, or what we feel within ourselves, from the inward workings of our own spirits, of which we are conscious to ourselves within.

3.1.6 *Distribution.*—But to understand better the use and force of language, as subservient to instruction and knowledge, it will be convenient to consider,

First, To what it is that names, in the use of language, are immediately applied.

Secondly, Since all (except proper) names are general, and so stand not particularly for this or that single thing, but for sorts and ranks of things, it will be necessary to consider, in the next place, what the sorts and kinds, or, if you rather like the Latin names, what the species and genera of things are; wherein they consist, and how they come to be made.

These being (as they ought) well looked into, we shall the better come to find the right use of words, the natural advantages and defects of language, and the remedies that ought to be used, to avoid the inconveniences of obscurity or uncertainty in the signification of words, without which it is impossible to discourse with any clearness or order concerning knowledge; which being conversant about propositions, and those most commonly universal ones, has greater connexion with words than perhaps is suspected.

These considerations, therefore, shall be the matter of the following chapters.

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and then, once they had names that were known and agreed on to signify those internal operations of their own minds, they were well enough equipped to make all their other ideas known by words. For those ideas could consist of nothing but outward sensible perceptions or the inward operations of their minds about them. As has been proved, we have no ideas at all except those that originally come either from sensible objects outside us, or from what we feel within ourselves, from the inner workings of our own spirits, of which we are conscious within.

Distribution.—To understand better the use and force of language as it serves instruction and knowledge, it will be useful to consider the following.

First, what it is that names, in the use of language, are immediately applied to.

Second, all names except proper names are general. They do not stand for this or that single thing in particular, but for sorts and ranks of things. So it will be necessary to consider next what the sorts and kinds of things are (or, if you prefer the Latin names, the species and genera of things), what they consist in, and how they come to be made.

Once these are properly looked into, as they should be, we will be better able to find the right use of words, the natural advantages and defects of language, and the remedies we ought to use to avoid the drawbacks of obscurity or uncertainty in the signification of words. Without this it is impossible to discuss knowledge with any clarity or order. For knowledge deals with propositions, most commonly universal ones, and so it has a greater connection with words than is perhaps suspected.

These considerations, then, will be the subject of the following chapters.

THE SIGNIFICATION OF WORDS

Words are arbitrary sensible signs, and they stand first for the ideas in the speaker's own mind.

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3.2.1 *Words are sensible signs necessary for communication.*—Man, though he has great variety of thoughts,

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Words are sensible signs necessary for communication.—Man has a great variety of thoughts, and they are

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and such from which others, as well as himself, might receive profit and delight; yet they are all within his own breast, invisible and hidden from others, nor can of themselves be made to appear. The comfort and advantage of society not being to be had without communication of thoughts, it was necessary that man should find out some external sensible signs, whereby those invisible ideas which his thoughts are made up of, might be made known to others. For this purpose nothing was so fit, either for plenty or quickness, as those articulate sounds, which, with so much ease and variety, he found himself able to make.

Thus we may conceive how words which were by nature so well adapted to that purpose, come to be made use of by men, as the signs of their ideas; not by any natural connexion that there is between particular articulate sounds, and certain ideas, for then there would be but one language among all men: but by a voluntary imposition, whereby such a word is made arbitrarily the mark of such an idea. The use then of words is to be sensible marks of ideas; and the ideas they stand for are their proper and immediate signification.

3.2.2 *Words are the sensible signs of his ideas who uses them.*—The use men have of these marks being either to record their own thoughts for the assistance of their own memory, or, as it were, to bring out their ideas, and lay them before the view of others; words in their primary or immediate signification stand for nothing but the ideas in the mind of him that uses them, how imperfectly soever or carelessly those ideas are collected from the things which they are supposed to represent. When a man speaks to another, it is that he may be understood; and the end of speech is, that those sounds, as marks, may make known his ideas to the hearer.

That then which words are the marks of, are the ideas of the speaker: nor can any one apply them as marks immediately to any thing else but the ideas that he himself hath. For this would be to make them signs of his own conceptions, and yet apply them to other ideas; which would be to make them signs, and not signs of his ideas at the same time; and so, in effect, to have no signification at all. Words being voluntary signs, they cannot be voluntary signs imposed by him on things he knows not. That would be to make

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thoughts from which others as well as himself might gain profit and delight. Yet they are all within his own breast, invisible and hidden from others, and they cannot be made to appear by themselves. The comfort and advantage of society cannot be had without the communication of thoughts. So man had to find some external, sensible signs by which the invisible ideas his thoughts are made up of could be made known to others. For this purpose nothing was so fit, either for abundance or for quickness, as the articulate sounds he found he could make with such ease and variety.

This lets us see how men came to use words as the signs of their ideas, since words were by nature so well suited to that purpose. This is not through any natural connection between particular articulate sounds and certain ideas, for then there would be only one language among all men. It is by a voluntary imposition, by which a given word is arbitrarily made the mark of a given idea. The use of words, then, is to be sensible marks of ideas, and the ideas they stand for are their proper and immediate signification.

Words are the sensible signs of the ideas of the person who uses them.—Men use these marks either to record their own thoughts as an aid to their own memory, or, as it were, to bring out their ideas and lay them before the view of others. So words in their primary or immediate signification stand for nothing but the ideas in the mind of the person who uses them. This holds however imperfectly or carelessly those ideas have been gathered from the things they are supposed to represent. When a man speaks to another, it is so that he may be understood. The purpose of speech is that those sounds, as marks, may make his ideas known to the hearer.

What words are the marks of, then, are the ideas of the speaker. Nor can anyone apply them as marks immediately to anything other than the ideas he himself has. Otherwise he would be making them signs of his own conceptions and yet applying them to other ideas. That would make them signs of his ideas and not signs of his ideas at the same time, and so, in effect, give them no signification at all. Since words are voluntary signs, he cannot impose them as voluntary signs on things he does

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them signs of nothing, sounds without signification.

A man cannot make his words the signs either of qualities in things, or of conceptions in the mind of another, whereof he has none in his own. Until he has some ideas of his own, he cannot suppose them to correspond with the conceptions of another man; nor can he use any signs for them; for thus they would be the signs of he knows not what, which is, in truth, to be the signs of nothing. But when he represents to himself other men's ideas by some of his own, if he consent to give them the same names that other men do, it is still to his own ideas; to ideas that he has, and not to ideas that he has not.

3.2.3 This is so necessary in the use of language, that in this respect the knowing and the ignorant, the learned and unlearned, use the words they speak (with any meaning) all alike. They, in every man's mouth, stand for the ideas he has, and which he would express by them. A child having taken notice of nothing in the metal he hears called gold, but the bright shining yellow colour, he applies the word gold only to his own idea of that colour, and nothing else; and therefore calls the same colour in a peacock's tail, gold.

Another, that hath better observed, adds to shining yellow great weight; and then the sound gold, when he uses it, stands for a complex idea of a shining yellow, and very weighty substance. Another adds to those qualities, fusibility and then the word gold signifies to him a body, bright, yellow, fusible, and very heavy. Another adds malleability. Each of these uses equally the word gold, when they have occasion to express the idea which they have applied it to; but it is evident, that each can apply it only to his own idea; nor can he make it stand as a sign of such a complex idea as he has not.

3.2.4 *Words often secretly referred, first, to the ideas in other men's minds.*—But though words, as they are used by men, can properly and immediately signify nothing but the ideas that are in the mind of the speaker; yet they in their thoughts give them a secret reference to two other things.

First, They suppose their words to be marks of the ideas in the minds also of other men, with whom they communicate: for else they should talk in

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not know. That would make them signs of nothing, sounds without signification.

A man cannot make his words the signs of qualities in things, or of conceptions in another person's mind, if he has no such ideas in his own. Until he has some ideas of his own, he cannot suppose them to correspond to another man's conceptions. Nor can he use any signs for them, for then they would be signs of he knows not what, which in truth is to be signs of nothing. He may represent other men's ideas to himself by some of his own, and agree to give them the same names other men do. But even then it is still his own ideas he gives those names to: ideas he has, not ideas he does not have.

This is so necessary in the use of language that in this respect the knowing and the ignorant, the learned and the unlearned, all use the words they speak (with any meaning) alike. In every man's mouth, words stand for the ideas he has and wants to express by them. Take a child who has noticed nothing in the metal he hears called gold except its bright, shining yellow color. He applies the word gold only to his own idea of that color and nothing else, and so he calls the same color in a peacock's tail gold.

Another, who has observed better, adds great weight to shining yellow. Then the sound gold, when he uses it, stands for a complex idea of a shining yellow and very heavy substance. Another adds fusibility to those qualities, and then the word gold signifies to him a body that is bright, yellow, fusible, and very heavy. Another adds malleability. Each of these uses the word gold equally when he has occasion to express the idea he has applied it to. But it is evident that each can apply it only to his own idea. He cannot make it stand as a sign of a complex idea he does not have.

Words are often secretly referred, first, to the ideas in other men's minds.—As men use words, they can properly and immediately signify nothing but the ideas in the speaker's mind. Yet in their thoughts men give them a secret reference to two other things.

First, they suppose their words to be marks of the ideas in the minds of the other men they commu-

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vain, and could not be understood, if the sounds they applied to one idea were such as by the hearer were applied to another; which is to speak two languages.

But in this, men stand not usually to examine whether the idea they and those they discourse with have in their minds be the same: but think it enough that they use the word, as they imagine, in the common acceptation of that language; in which they suppose that the idea they make it a sign of is precisely the same, to which the understanding men of that country apply that name.

3.2.5 *Secondly, to the reality of things.*—Secondly, Because men would not be thought to talk barely of their own imaginations, but of things as really they are; therefore they often suppose their words to stand also for the reality of things.

But this relating more particularly to substances, and their names, as perhaps the former does to simple ideas and modes, we shall speak of these two different ways of applying words more at large, when we come to treat of the names of mixed modes and substances in particular: though give me leave here to say, that it is a perverting the use of words, and brings unavoidable obscurity and confusion into their signification, whenever we make them stand for any thing but those ideas we have in our own minds.

3.2.6 *Words by use readily excite ideas.*—Concerning words, also, it is farther to be considered: first, that they being immediately the signs of men's ideas; and by that means the instruments whereby men communicate their conceptions, and express to one another those thoughts and imaginations they have within their own breasts; there comes by constant use to be such a connexion between certain sounds and the ideas they stand for, that the names heard almost as readily excite certain ideas, as if the objects themselves, which are apt to produce them, did actually affect the senses. Which is manifestly so in all obvious sensible qualities, and in all substances that frequently and familiarly occur to us.

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nicate with as well. Otherwise they would talk in vain and could not be understood, because the sounds they applied to one idea would be applied by the hearer to another. That would be speaking two languages.

But men do not usually stop to examine whether the idea they have in mind is the same as the idea of the people they are talking with. They think it enough that they use the word, as they imagine, in the common sense of that language. They suppose that the idea they make it a sign of is exactly the one to which the knowledgeable people of that country apply that name.

Second, to the reality of things.—Second, men do not want to be thought to be talking merely about their own imaginations. They want to be talking about things as they really are. So they often suppose their words to stand also for the reality of things.

This second reference relates more particularly to substances and their names, as the first perhaps does to simple ideas and modes. So we will speak of these two different ways of applying words at greater length when we come to treat the names of mixed modes and of substances in particular. Still, allow me to say this here. Whenever we make words stand for anything but the ideas we have in our own minds, we pervert the use of words and bring unavoidable obscurity and confusion into their signification.

Words by use readily call up ideas.—There are further points to consider about words. The first is this. Words are immediately the signs of men's ideas, and so they are the instruments by which men communicate their conceptions and express to one another the thoughts and imaginations they have within their own breasts. As a result, constant use creates such a connection between certain sounds and the ideas they stand for that hearing the names calls up certain ideas almost as readily as if the objects that tend to produce those ideas were actually affecting the senses. This is plainly so with all obvious sensible qualities, and with all substances we meet frequently and familiarly.

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3.2.7 *Words often used without signification.*—Secondly, That though the proper and immediate signification of words are ideas in the mind of the speaker, yet because by familiar use from our cradles we come to learn certain articulate sounds very perfectly, and have them readily on our tongues, and always at hand in our memories, but yet are not always careful to examine or settle their significations perfectly; it often happens that men, even when they would apply themselves to an attentive consideration, do set their thoughts more on words than things.

Nay, because words are many of them learned before the ideas are known for which they stand; therefore some, not only children, but men, speak several words no otherwise than parrots do, only because they have learned them, and have been accustomed to those sounds. But so far as words are of use and signification, so far is there a constant connexion between the sound and the idea, and a designation that the one stands for the other; without which application of them, they are nothing but so much insignificant noise.

3.2.8 *Their signification perfectly arbitrary.*—Words, by long and familiar use, as has been said, come to excite in men certain ideas so constantly and readily, that they are apt to suppose a natural connexion between them. But that they signify only men's peculiar ideas, and that by a perfect arbitrary imposition, is evident, in that they often fail to excite in others (even that use the same language) the same ideas we take them to be the signs of; and every man has so inviolable a liberty to make words stand for what ideas he pleases, that no one hath the power to make others have the same ideas in their minds that he has, when they use the same words that he does.

And therefore the great Augustus himself, in the possession of that power which ruled the world, acknowledged he could not make a new Latin word; which was as much as to say, that he could not arbitrarily appoint what idea any sound should be a sign of in the mouths and common language of his subjects.

It is true, common use, by a tacit consent, appropriates certain sounds to certain ideas in all

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Words are often used without signification.—Second, the proper and immediate signification of words is ideas in the speaker's mind. But through familiar use from our cradles we learn certain articulate sounds very thoroughly. We have them ready on our tongues and always at hand in our memories, and yet we are not always careful to examine or settle their significations fully. So it often happens that men fix their thoughts more on words than on things, even when they mean to give a subject their careful attention.

Indeed, many words are learned before the ideas they stand for are known. So some people, grown men as well as children, say a number of words no differently than parrots do, only because they have learned them and are used to those sounds. But insofar as words have use and signification, there is a constant connection between the sound and the idea, and an understanding that the one stands for the other. Without that application, words are nothing but so much meaningless noise.

Their signification is perfectly arbitrary.—As has been said, long and familiar use makes words call up certain ideas in men so constantly and readily that people are apt to suppose there is a natural connection between them. But words signify only each man's own ideas, and they do so by a perfectly arbitrary imposition. This is evident because they often fail to call up in others the same ideas we take them to be signs of, even in others who use the same language. And every man has so inviolable a liberty to make words stand for whatever ideas he pleases that no one has the power to make others have the same ideas in their minds that he has when they use the same words he does.

That is why the great Augustus himself, while he held the power that ruled the world, admitted that he could not make a new Latin word. In effect he was saying that he could not arbitrarily decide what idea any sound should be a sign of in the mouths and common language of his subjects.[1]

It is true that in all languages common use, by tacit consent, assigns certain sounds to certain

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languages, which so far limits the signification of that sound, that unless a man applies it to the same idea, he does not speak properly: and let me add, that unless a man's words excite the same ideas in the hearer which he makes them stand for in speaking, he does not speak intelligibly. But whatever be the consequence of any man's using of words differently, either from their general meaning, or the particular sense of the person to whom he addresses them, this is certain their signification, in his use of them, is limited to his ideas, and they can be signs of nothing else.

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ideas. This limits the signification of a sound, so that a man who does not apply it to the same idea is not speaking properly. And let me add that a man is not speaking intelligibly unless his words call up in the hearer the same ideas he makes them stand for in speaking. A man may use words differently from their general meaning, or from the particular sense of the person he is addressing. Whatever the consequences of that, one thing is certain: their signification, in his use of them, is limited to his ideas, and they can be signs of nothing else.

GENERAL TERMS

Most words are general; abstraction makes general ideas, and genus and species are the mind's work.

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3.3.1 *The greatest part of words general.*—All things that exist being particulars, it may perhaps be thought reasonable that words, which ought to be conformed to things, should be so too; I mean in their signification: but yet we find the quite contrary. The far greatest part of words, that make all languages, are general terms; which has not been the effect of neglect or chance, but of reason and necessity.

3.3.2 *For every particular thing to have a name is impossible.*—First, It is impossible that every particular thing should have a distinct peculiar name. For the signification and use of words, depending on that connexion which the mind makes between its ideas, and the sounds it uses as signs of them, it is necessary, in the application of names to things, that the mind should have distinct ideas of the things, and retain also the particular name that belongs to every one, with its peculiar appropriation to that idea.

But it is beyond the power of human capacity to frame and retain distinct ideas of all the particular things we meet with; every bird and beast men saw, every tree and plant that affected the senses could not find a place in the most capacious understanding. If it be looked on as an instance of a prodigious memory, that some generals have been able to call every soldier in their army by his proper name, we may easily

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The greatest part of words are general.—All things that exist are particulars. So it might seem reasonable that words, which ought to fit things, should be particular too (in their signification, I mean). Yet we find the very opposite. By far the greatest part of the words that make up all languages are general terms. This has not been the result of neglect or chance, but of reason and necessity.

It is impossible for every particular thing to have a name.—First, it is impossible for every particular thing to have its own distinct name. The signification and use of words depend on the connection the mind makes between its ideas and the sounds it uses as signs of them. So in applying names to things, the mind must have distinct ideas of the things. It must also retain the particular name that belongs to each one, as specifically assigned to that idea.

But forming and retaining distinct ideas of all the particular things we meet is beyond the power of human capacity. Even the most capacious understanding could not find room for every bird and beast men saw, and every tree and plant that affected their senses. Some generals have been able to call every soldier in their army by his own name, and people regard this as a sign of a prodigious memory. We can easily see, then, why men

1 The story is usually told of Tiberius: the grammarian Marcellus told him he could grant citizenship to men but not to words (Suetonius, *On Grammarians* 22).

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find a reason why men have never attempted to give names to each sheep in their flock, or crow that flies over their head; much less to call every leaf of plants, or grain of sand that came in their way, by a peculiar name.

3.3.3 *And useless.*—Secondly, If it were possible, it would yet be useless; because it would not serve to the chief end of language. Men would in vain heap up names of particular things that would not serve them to communicate their thoughts. Men learn names, and use them in talk with others, only that they may be understood; which is then only done, when by use or consent the sound I make by the organs of speech excites in another man's mind, who hears it, the idea I apply it to in mine, when I speak it.

This cannot be done by names applied to particular things, whereof I alone having the ideas in my mind, the names of them could not be significant or intelligible to another who was not acquainted with all those very particular things which had fallen under my notice.

3.3.4 Thirdly, But yet granting this also feasible (which I think is not), yet a distinct name for every particular thing would not be of any great use for the improvement of knowledge; which, though founded in particular things, enlarges itself by general views; to which things reduced, into sorts under general names, are properly subservient. These, with the names belonging to them, come within some compass, and do not multiply every moment, beyond what either the mind can contain, or use requires: and therefore, in these, men have for the most part stopped; but yet not so as to hinder themselves from distinguishing particular things by appropriated names, where convenience demands it.

And therefore in their own species, which they have most to do with, and wherein they have often occasion to mention particular persons, they make use of proper names; and their distinct individuals have distinct denominations.

3.3.5 *What things have proper names.*—Besides persons, countries also, cities, rivers, mountains, and other the like distinctions of place, have usually found peculiar names, and that for the same reason; they being such as men have often an occasion to mark particularly, and, as it were, set

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have never tried to give a name to each sheep in their flock, or to each crow that flies over their heads. Much less have they tried to give every leaf of a plant, or every grain of sand in their path, a name of its own.

And useless.—Second, even if it were possible, it would still be useless, because it would not serve the chief purpose of language. Men would pile up names of particular things in vain, since these names would not help them communicate their thoughts. Men learn names and use them in talking with others only in order to be understood. That happens only when, by use or consent, the sound I make with my organs of speech calls up in the hearer's mind the idea I apply it to in mine when I speak it.

Names applied to particular things cannot do this. I alone would have the ideas of those things in my mind. So their names could not be meaningful or intelligible to anyone else who was not acquainted with all the very particular things that had come to my notice.

Third, suppose we grant that this too were feasible (which I think it is not). A distinct name for every particular thing would still be of little use for the improvement of knowledge. Knowledge is founded on particular things, but it enlarges itself through general views, and what properly serves those views is things reduced into sorts under general names. These sorts, with the names belonging to them, stay within some bounds. They do not multiply every moment beyond what the mind can hold or what use requires. So for the most part men have stopped at these. But this has not kept them from giving particular things names of their own where convenience demands it.

So within their own species, which they have most to do with and in which they often have occasion to mention particular persons, men use proper names, and distinct individuals have distinct names.

What things have proper names.—Besides persons, countries, cities, rivers, mountains, and other such divisions of place have usually been given their own names too, and for the same reason. Men often have occasion to mark them out particularly and, as it were, to set them before others

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before others in their discourses with them. And I doubt not, but if we had reason to mention particular horses, as often as we have to mention particular men, we should have proper names for the one as familiar as for the other; and Bucephalus would be a word as much in use as Alexander.

And therefore we see that, among jockies, horses have their proper names to be known and distinguished by as commonly as their servants; because, among them, there is often occasion to mention this or that particular horse, when he is out of sight.

3.3.6 *How general words are made.*—The next thing to be considered is, how general words come to be made. For since all things that exist are only particulars, how come we by general terms, or where find we those general natures they are supposed to stand for? Words become general, by being made the signs of general ideas; and ideas become general, by separating from them the circumstances of time, and place, and any other ideas, that may determine them to this or that particular existence. By this way of abstraction, they are made capable of representing more individuals than one; each of which having in it a conformity to that abstract idea, is (as we call it) of that sort.

3.3.7 But to deduce this a little more distinctly, it will not perhaps be amiss to trace our notions and names from their beginning, and observe by what degrees we proceed, and by what steps we enlarge our ideas from our first infancy. There is nothing more evident, than that the ideas of the persons children converse with (to instance in them alone) are like the persons themselves, only particular. The ideas of the nurse and the mother are well framed in their minds; and, like pictures of them there, represent only those individuals. The names they first gave to them are confined to these individuals; and the names of nurse and mamma the child uses, determine themselves to those persons.

Afterwards, when time and a larger acquaintance have made them observe, that there are a great many other things in the world, that in some common agreements of shape, and several other

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when talking with them. I have no doubt that if we had reason to mention particular horses as often as we mention particular men, we would have proper names for the one as familiar as for the other. Bucephalus would then be a word as much in use as Alexander.[2]

And so we see that among horse dealers, horses have their own names to be known and distinguished by, just as commonly as the dealers' servants do. This is because among them there is often occasion to mention this or that particular horse when he is out of sight.

How general words are made.—The next thing to consider is how general words come to be made. All things that exist are only particulars. So how do we come by general terms, and where do we find the general natures they are supposed to stand for? Words become general by being made the signs of general ideas. Ideas become general when we separate from them the circumstances of time and place, and any other ideas that may tie them to this or that particular existence. This kind of abstraction makes them capable of representing more than one individual. Each individual that conforms to the abstract idea is then, as we say, of that sort.

To work this out a little more distinctly, it may be worth tracing our notions and names from their beginning. We can observe by what degrees we proceed, and by what steps we enlarge our ideas, from our earliest infancy. Children will serve as the only example. Nothing is more evident than that their ideas of the people they deal with are only particular, like the people themselves. The ideas of the nurse and the mother are well formed in their minds, and like pictures of them there, they represent only those individuals. The names children first give them are confined to these individuals. When the child uses the names nurse and mamma, they apply to those persons alone.

Later, time and wider acquaintance make them notice that there are a great many other things in the world that resemble their father and mother and the people they are used to, in some common

2 Bucephalus was the famous horse of Alexander the Great.

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qualities, resemble their father and mother, and those persons they have been used to, they frame an idea, which they find those many particulars do partake in; and to that they give, with others, the name man for example. And thus they come to have a general name, and a general idea. Wherein they make nothing new, but only leave out the complex idea they had of Peter and James, Mary and Jane, that which is peculiar to each, and retain only what is common to them all.

3.3.8 By the same way that they come by the general name and idea of man, they easily advance to more general names and notions. For observing that several things that differ from their idea of man, and cannot therefore be comprehended under that name, have yet certain qualities, wherein they agree with man, by retaining only those qualities, and uniting them into one idea, they have again another and more general idea; to which having given a name, they make a term of a more comprehensive extension: which new idea is made, not by any new addition, but only, as before, by leaving out the shape, and some other properties signified by the name man, and retaining only a body, with life, sense, and spontaneous motion, comprehended under the name animal.

3.3.9 *General natures are nothing but abstract ideas.*—That this is the way whereby men first formed general ideas, and general names to them, I think, is so evident, that there needs no other proof of it, but the considering of a man's self, or others, and the ordinary proceedings of their minds in knowledge: and he that thinks general natures or notions are any thing else but such abstract and partial ideas of more complex ones, taken at first from particular existences, will, I fear, be at a loss where to find them.

For let any one reflect, and then tell me, wherein does his idea of man differ from that of Peter and Paul; or his idea of horse from that of Bucephalus, but in the leaving out something that is peculiar to each individual, and retaining so much of those particular complex ideas of several particular existences as they are found to agree in? Of the complex ideas signified by the names man and horse, leaving out but those particulars wherein they differ, and retaining only those wherein they agree, and of those making a new distinct

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points of shape and several other qualities. They then form an idea that they find all those particulars share in, and they give that idea the name man, for example, as others do. So they come to have a general name and a general idea. In this they make nothing new. From the complex idea they had of Peter and James, Mary and Jane, they only leave out what is peculiar to each, and keep only what is common to them all.

They come by the general name and idea of man in this way, and in the same way they easily move on to more general names and notions. They observe that a number of things differ from their idea of man, and so cannot be included under that name, yet still have certain qualities in which they agree with man. By keeping only those qualities and uniting them into one idea, they once again have another, more general idea. When they have given it a name, they have made a term of wider extension. This new idea is made without any new addition. As before, it is made only by leaving out the shape and some other properties signified by the name man. What is kept is only a body with life, sense, and spontaneous motion, which is what the name animal covers.

General natures are nothing but abstract ideas.—This is the way men first formed general ideas, and general names for them. I think it is so evident that it needs no other proof than considering oneself or others and the ordinary workings of their minds in knowing. Some think general natures or notions are something other than such abstract and partial ideas of more complex ones, taken at first from particular existences. Anyone who thinks so will, I fear, be at a loss where to find them.

Let anyone reflect, and then tell me how his idea of man differs from his ideas of Peter and Paul, or his idea of horse from his idea of Bucephalus. It differs only by leaving out something peculiar to each individual, and keeping as much of those particular complex ideas of several particular existences as they are found to agree in. Take the complex ideas signified by the names man and horse. Leave out only the particulars in which they differ, and keep only those in which they agree. Make of these a new, distinct complex idea,

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complex idea, and giving the name animal to it; one has a more general term, that comprehends with man several other creatures.

Leave out of the idea of animal, sense and spontaneous motion; and the remaining complex idea, made up of the remaining simple ones of body, life and nourishment, becomes a more general one, under the more comprehensive term *vivens*. And not to dwell longer upon this particular, so evident in itself, by the same way the mind proceeds to body, substance, and at last to being, thing, and such universal terms, which stand for any of our ideas whatsoever. To conclude, this whole mystery of *genera* and *species*, which make such a noise in the schools, and are with justice so little regarded out of them, is nothing else but abstract ideas, more or less comprehensive, with names annexed to them.

In all which this is constant and unvariable, that every more general term stands for such an idea, as is but a part of any of those contained under it.

3.3.10 *Why the genus is ordinarily made use of in definitions.*—This may show us the reason why, in the defining of words, which is nothing but declaring their significations, we make use of the genus, or next general word that comprehends it. Which is not out of necessity, but only to save the labour of enumerating the several simple ideas, which the next general word or genus stands for; or, perhaps, sometimes the shame of not being able to do it.

But though defining by *genus* and *differentia* (I crave leave to use these terms of art, though originally Latin, since they most properly suit those notions they are applied to) I say, though defining by the genus be the shortest way, yet I think it may be doubted whether it be the best. This I am sure, it is not the only, and so not absolutely necessary.

For definition being nothing but making another understand by words what idea the term defined stands for, a definition is best made by enumerating those simple ideas that are combined in the signification of the term defined; and if instead of such an enumeration men have accustomed themselves to use the next general

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and give it the name animal. One then has a more general term, which includes several other creatures along with man.

Leave sense and spontaneous motion out of the idea of animal. The complex idea that remains, made up of the remaining simple ideas of body, life, and nourishment, becomes a more general one, under the more comprehensive term *vivens*. This point is so evident in itself that I will not dwell on it any longer. In the same way the mind proceeds to body, to substance, and finally to being, thing, and such universal terms, which stand for any of our ideas whatever. To conclude, this whole mystery of *genera* and *species*, which makes such a noise in the schools and is rightly so little regarded outside them, is nothing but abstract ideas, more or less comprehensive, with names attached to them.[3]

In all of this one thing is constant and invariable. Every more general term stands for an idea that is only a part of any of the ideas contained under it.

Why the genus is ordinarily used in definitions.—This may show us why, when we define words, we use the genus, or the next general word that includes the one defined. (Defining a word is nothing but declaring its signification.) We do not do this out of necessity. We do it only to save the labor of listing the several simple ideas that the next general word, or genus, stands for, or perhaps sometimes to avoid the embarrassment of not being able to list them.

Defining by *genus* and *differentia* (I ask leave to use these technical terms, though they are originally Latin, since they fit the notions they are applied to most properly)—defining by the genus, I say, is the shortest way. Yet I think it may be doubted whether it is the best. This much I am sure of: it is not the only way, and so it is not absolutely necessary.

Definition is nothing but making someone else understand by words what idea the defined term stands for. So a definition is best made by listing the simple ideas that are combined in the signification of the term defined. Men have gotten used to using the next general term instead of such a list. They have done so not out of necessity or for

3 *Vivens* is Latin for "living thing." "The schools" are the scholastic philosophy taught in the universities.

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term, it has not been out of necessity, or for greater clearness, but for quickness and despatch sake.

For, I think, that to one who desired to know what idea the word man stood for, it should be said, that man was a solid extended substance, having life, sense, spontaneous motion, and the faculty of reasoning; I doubt not but the meaning of the term man would be as well understood, and the idea it stands for be at least as clearly made known, as when it is defined to be a rational animal: which, by the several definitions of animal, *vivens*, and *corpus*, resolves itself into those enumerated ideas. I have, in explaining the term man, followed here the ordinary definition of the schools: which though, perhaps, not the most exact, yet serves well enough to my present purpose.

And one may, in this instance, see what gave occasion to the rule, that a definition must consist of *genus* and *differentia;* and it suffices to show us the little necessity there is of such a rule, or advantage in the strict observing of it. For definitions, as has been said, being only the explaining of one word by several others, so that the meaning or idea it stands for may be certainly known; languages are not always so made according to the rules of logic, that every term can have its signification exactly and clearly expressed by two others.

Experience sufficiently satisfies us to the contrary; or else those who have made this rule have done ill, that they have given us so few definitions conformable to it. But of definitions, more in the next chapter.

3.3.11 *General and universal are creatures of the understanding.*—To return to general words, it is plain by what has been said, that general and universal belong not to the real existence of things; but are the inventions and creatures of the understanding, made by it, for its own use, and concern only signs, whether words or ideas. Words are general, as has been said, when used for signs of general ideas, and so are applicable indifferently to many particular things: and ideas are general, when they are set up as the representatives of many particular things; but universality belongs not to things themselves,

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greater clarity, but for the sake of speed and dispatch.

Suppose someone wanted to know what idea the word man stood for, and he was told that man is a solid, extended substance, having life, sense, spontaneous motion, and the faculty of reasoning. I have no doubt that he would understand the meaning of the term man as well as if it were defined as a rational animal, and that the idea it stands for would be made known at least as clearly. Through the several definitions of animal, *vivens*, and *corpus*, that definition breaks down into these same listed ideas. In explaining the term man, I have followed here the ordinary definition of the schools. It is perhaps not the most exact, but it serves well enough for my present purpose.[4]

This example shows what gave rise to the rule that a definition must consist of *genus* and *differentia*. It is also enough to show how little need there is for such a rule, and how little advantage there is in observing it strictly. As has been said, definitions only explain one word by several others, so that the meaning, or the idea it stands for, may be known with certainty. And languages are not always made so strictly by the rules of logic that every term can have its signification exactly and clearly expressed by two others.

Experience amply convinces us of the contrary. Otherwise those who made this rule have done badly in giving us so few definitions that conform to it. But more on definitions in the next chapter.

General and universal are creatures of the understanding.—To return to general words: what has been said makes it plain that general and universal do not belong to the real existence of things. They are inventions and creatures of the understanding, made by it for its own use, and they concern only signs, whether words or ideas. As has been said, words are general when they are used as signs of general ideas, and so can be applied indifferently to many particular things. Ideas are general when they are set up as the representatives of many particular things. But universality does not belong to

4 *Corpus* is Latin for "body."

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which are all of them particular in their existence; even those words and ideas which in their signification are general.

When therefore we quit particulars, the generals that rest are only creatures, of our own making; their general nature being nothing but the capacity they are put into by the understanding, of signifying or representing many particulars. For the signification they have is nothing but a relation, that by the mind of man is added to them.

3.3.12 *Abstract ideas are the essences of the genera and species.*—The next thing therefore to be considered is, what kind of signification it is that general words have. For, as it is evident that they do not signify barely one particular thing; for then they would not be general terms, but proper names; so on the other side it is as evident, they do not signify a plurality; for man and men would then signify the same, and the distinction of numbers (as the grammarians call them) would be superfluous and useless.

That then which general words signify is a sort of things; and each of them does that by being a sign of an abstract idea in the mind, to which idea, as things existing are found to agree, so they come to be ranked under that name; or, which is all one, be of that sort. Whereby, it is evident that the essences of the sorts, or (if the Latin word pleases better) species of things, are nothing else but these abstract ideas.

For the having the essence of any species being that which makes any thing to be of that species, and the conformity to the idea to which the name is annexed being that which gives a right to that name; the having the essence, and the having that conformity, must needs be the same thing; since to be of any species, and to have a right to the name of that species, is all one. As, for example, to be a man, or of the species man, and to have a right to the name man, is the same thing. Again, to be a man or of the species man, and have the essence of a man, is the same thing.

Now since nothing can be a man, or have a right to the name man, but what has a conformity to the abstract idea the name man stands for; nor any thing be a man, or have a right to the species man, but what has the essence of that species: it

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things themselves, which are all particular in their existence. This is true even of those words and ideas that are general in their signification.

So when we set particulars aside, the generals that remain are only creatures of our own making. Their general nature is nothing but the capacity the understanding gives them to signify or represent many particulars. For the signification they have is nothing but a relation that the mind of man adds to them.

Abstract ideas are the essences of the genera and species.—The next thing to consider, then, is what kind of signification general words have. It is evident that they do not signify merely one particular thing, for then they would not be general terms but proper names. On the other side, it is just as evident that they do not signify a plurality. If they did, man and men would mean the same, and the distinction of numbers (as the grammarians call them) would be superfluous and useless.

What general words signify, then, is a sort of things. Each of them does this by being a sign of an abstract idea in the mind. As existing things are found to agree with that idea, they come to be ranked under that name, or, what amounts to the same, to be of that sort. From this it is evident that the essences of the sorts of things are nothing but these abstract ideas. (If the Latin word is preferred, these are the essences of the species of things.)

Having the essence of a species is what makes anything be of that species. Conformity to the idea the name is attached to is what gives a right to that name. So having the essence and having that conformity must be the same thing, since being of a species and having a right to the name of that species are one and the same. For example, to be a man, or of the species man, and to have a right to the name man, are the same thing. Again, to be a man, or of the species man, and to have the essence of a man, are the same thing.

Now, nothing can be a man or have a right to the name man unless it conforms to the abstract idea the name man stands for. And nothing can be a man or have a right to the species man unless it has the essence of that species. It follows that the

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follows that the abstract idea for which the name stands, and the essence of the species is one and the same. From whence it is easy to observe, that the essences of the sorts of things, and consequently the sorting of this, is the workmanship of the understanding, that abstracts and makes those general ideas.

3.3.13 *They are the workmanship of the understanding, but have their foundation in the similitude of things.*—I would not here be thought to forget, much less to deny, that nature in the production of things makes several of them alike; there is nothing more obvious, especially in the races of animals and all things propagated by seed.

But yet, I think, we may say the sorting of them under names is the workmanship of the understanding, taking occasion from the similitude it observes among them to make abstract general ideas, and set them up in the mind, with names annexed to them, as patterns or forms (for in that sense the word form has a very proper signification), to which as particular things existing are found to agree, so they come to be of that species, have that denomination, or are put into that *classis*.

For when we say, this is a man, that a horse; this justice, that cruelty; this a watch, that a jack; what do we else but rank things under different specific names, as agreeing to those abstract ideas, of which we have made those names the signs? And what are the essences of those species, set out and marked by names, but those abstract ideas in the mind; which are, as it were, the bonds between particular things that exist, and the names they are to be ranked under?

And when general names have any connexion with particular beings, these abstract ideas are the medium that unites them; so that the essences of species, as distinguished and denominated by us, neither are, nor can be any thing, but those precise abstract ideas we have in our minds. And therefore the supposed real essences of substances, if different from our abstract ideas, cannot be the essences of the species we rank things into. For two species may be one as rationally as two different essences be the essence

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abstract idea the name stands for and the essence of the species are one and the same. From this it is easy to see that the essences of the sorts of things, and consequently the sorting of things, are the workmanship of the understanding, which abstracts and makes those general ideas.

They are the workmanship of the understanding, but have their foundation in the similarity of things.—I would not want to be thought to forget here that nature makes many things alike when it produces them, much less to deny it. Nothing is more obvious, especially in the races of animals and in all things propagated by seed.

Still, I think we may say that the sorting of them under names is the workmanship of the understanding. The understanding takes occasion from the similarity it observes among things to make abstract general ideas. It sets these up in the mind, with names attached, as patterns or forms (for the word form has a very proper signification in that sense). As particular existing things are found to agree with these patterns, they come to be of that species, have that name, or are put into that *classis*.

When we say this is a man, that a horse; this is justice, that cruelty; this is a watch, that a jack, what else are we doing but ranking things under different specific names? We rank them as agreeing with the abstract ideas of which we have made those names the signs. And what are the essences of those species, marked out and labeled by names, but those abstract ideas in the mind? These ideas are, as it were, the bonds between the particular things that exist and the names they are to be ranked under.[5]

When general names have any connection with particular beings, these abstract ideas are the medium that unites them. So the essences of species, as we distinguish and name them, neither are nor can be anything but the precise abstract ideas we have in our minds. Therefore the supposed real essences of substances, if they differ from our abstract ideas, cannot be the essences of the species we rank things into. For it would be as rational for two species to be one as for two different essences to be the essence of one species. And I ask what al-

5 A jack here is a roasting jack, a mechanism for turning a spit.

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of one species: and I demand what are the alterations may, or may not, be in a horse or lead, without making either of them to be of another species?

In determining the species of things by our abstract ideas, this is easy to resolve: but if any one will regulate himself herein by supposed real essences, he will, I suppose, be at a loss; and he will never be able to know when any thing precisely ceases to be of the species of a horse or lead.

3.3.14 *Each distinct abstract idea is a distinct essence.*—Nor will any one wonder that I say these essences, or abstract ideas (which are the measures of name, and the boundaries of species,) are the workmanship of the understanding, who considers, that at least the complex ones are often, in several men, different collections of simple ideas; and therefore that is covetousness to one man, which is not so to another.

Nay, even in substances, where their abstract ideas seem to be taken from the things themselves, they are not constantly the same; no, not in that species which is most familiar to us, and with which we have the most intimate acquaintance; it having been more than once doubted, whether the fœtus born of a woman were a man; even so far, as that it hath been debated, whether it were, or were not to be nourished and baptized; which could not be, if the abstract idea or essence, to which the name man belonged, were of nature's making, and were not the uncertain and various collection of simple ideas, which the understanding puts together, and then abstracting it, affixed a name to it.

So that in truth every distinct abstract idea is a distinct essence: and the names that stand for such distinct ideas are the names of things essentially different. Thus a circle is as essentially different from an oval, as a sheep from a goat; and rain is as essentially different from snow, as water from earth; the abstract idea which is the essence of one being impossible to be communicated to the other. And thus any two abstract ideas, that in any part vary one from another, with two distinct names annexed to them, constitute two distinct sorts, or, if you please, species, as essentially different, as any two of the most remote or opposite in the world.

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terations may or may not happen in a horse or in lead without making either of them belong to another species.

If we determine the species of things by our abstract ideas, this is easy to answer. But anyone who tries to settle it by supposed real essences will, I suppose, be at a loss. He will never be able to know exactly when anything ceases to be of the species horse or lead.

Each distinct abstract idea is a distinct essence.—I call these essences, or abstract ideas, the workmanship of the understanding. (They are the measures of names and the boundaries of species.) No one will be surprised at this if he considers that the complex ones, at least, are often different collections of simple ideas in different men. So what is covetousness to one man is not covetousness to another.

Indeed, even in substances, where the abstract ideas seem to be taken from the things themselves, those ideas are not consistently the same. This holds even for the species most familiar to us, the one we are most intimately acquainted with. More than once it has been doubted whether a fetus born of a woman was a man. The doubt has gone so far that people have debated whether or not it should be nourished and baptized. That could not happen if nature made the abstract idea, or essence, to which the name man belongs. Instead, that idea is an uncertain and varying collection of simple ideas. The understanding puts it together, abstracts it, and then attaches a name to it.

So in truth every distinct abstract idea is a distinct essence, and the names that stand for such distinct ideas are the names of things essentially different. Thus a circle is as essentially different from an oval as a sheep is from a goat, and rain is as essentially different from snow as water is from earth. For the abstract idea that is the essence of one cannot be shared with the other. So take any two abstract ideas that differ from each other in any part, and attach two distinct names to them. They constitute two distinct sorts, or, if you like, species, as essentially different as the two most remote or opposite sorts in the world.

REAL AND NOMINAL ESSENCES

Locke separates the unknown real constitution of a thing from the abstract idea its general name stands for.

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3.3.15 *Real and nominal essences.*—But since the essences of things are thought by some (and not without reason) to be wholly unknown, it may not be amiss to consider the several significations of the word essence.

First, essence may be taken for the being of any thing, whereby it is what it is. And thus the real internal, but generally, in substances, unknown constitution of things, whereon their discoverable qualities depend, may be called their essence. This is the proper original signification of the word, as is evident from the formation of it; *essentia*, in its primary notation, signifying properly being. And in this sense it is still used, when we speak of the essence of particular things, without giving them any name.

Secondly, the learning and disputes of the schools having been much busied about genus and species, the word essence has almost lost its primary signification; and instead of the real constitution of things, has been almost wholly applied to the artificial constitution of genus and species. It is true, there is ordinarily supposed a real constitution of the sorts of things; and it is past doubt, there must be some real constitution, on which any collection of simple ideas coexisting must depend.

But it being evident that things are ranked under names into sorts or species, only as they agree to certain abstract ideas to which we have annexed those names, the essence of each genus or sort comes to be nothing but that abstract idea, which the general or sortal (if I may have leave so to call it from sort, as I do general from genus) name stands for. And this we shall find to be that which the word essence imports in its most familiar use. These two sorts of essences, I suppose, may not unfitly be termed, the one the real, the other the nominal essence.

3.3.16 *Constant connexion between the name and nominal essence.*—Between the nominal essence and the name there is so near a connexion, that the name of any sort of things cannot be attributed to any

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Real and nominal essences.—Some think (and not without reason) that the essences of things are wholly unknown. So it may be worth considering the several significations of the word essence.

First, essence may be taken for the very being of anything, by which it is what it is. In this sense we may call the real internal constitution of things their essence. Their discoverable qualities depend on this constitution, which in the case of substances is generally unknown. This is the proper, original signification of the word, as its formation makes evident: *essentia*, in its primary sense, properly signifies being. The word is still used in this sense when we speak of the essence of particular things without giving them any name.

Second, the learning and disputes of the schools have been so busy with genus and species that the word essence has almost lost its primary signification. Instead of the real constitution of things, it has been applied almost entirely to the artificial constitution of genus and species. It is true that people ordinarily suppose there is a real constitution of the sorts of things. And there is no doubt that there must be some real constitution on which any collection of coexisting simple ideas depends.

But it is evident that things are ranked under names into sorts or species only as they agree with certain abstract ideas to which we have attached those names. So the essence of each genus or sort comes to be nothing but the abstract idea that the general or sortal name stands for. (I hope I may be allowed to call it sortal, from sort, as I call it general, from genus.) We will find that this is what the word essence means in its most familiar use. These two sorts of essences may not unsuitably be called, I suppose, the one the real essence, the other the nominal essence.

Constant connection between the name and the nominal essence.—The connection between the nominal essence and the name is very close. The name of any sort of things cannot be given to any particu-

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particular being but what has this essence, whereby it answers that abstract idea, whereof that name is the sign.

3.3.17 *Supposition, that species are distinguished by their real essences, useless.*—Concerning the real essences of corporeal substances (to mention these only), there are, if I mistake not, two opinions. The one is of those who, using the word essence for they know not what, suppose a certain number of those essences, according to which all natural things are made, and wherein they do exactly every one of them partake, and so become of this or that species.

The other and more rational opinion is, of those who look on all natural things to have a real, but unknown constitution of their insensible parts; from which flow those sensible qualities which serve us to distinguish them one from another, according as we have occasion to rank them into sorts under common denominations. The former of these opinions, which supposes these essences as a certain number of forms or moulds, wherein all natural things that exist are cast and do equally partake, has, I imagine, very much perplexed the knowledge of natural things.

The frequent productions of monsters, in all the species of animals, and of changelings and other strange issues of human birth, carry with them difficulties not possible to consist with this hypothesis: since it is as impossible that two things, partaking exactly of the same real essence, should have different properties, as that two figures partaking of the same real essence of a circle should have different properties.

But were there no other reason against it, yet the supposition of essences that cannot be known, and the making of them nevertheless to be that which distinguishes the species of things, is so wholly useless and unserviceable to any part of our knowledge, that that alone were sufficient to make us lay it by, and content ourselves with such essences of the sorts or species of things, as come within the reach of our knowledge; which, when seriously considered, will be found, as I have said, to be nothing else but those abstract complex ideas to which we have annexed distinct general names.

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lar being unless it has this essence, by which it answers to the abstract idea of which that name is the sign.

The supposition that species are distinguished by their real essences is useless.—Concerning the real essences of corporeal substances (to mention only these), there are, if I am not mistaken, two opinions. The first is held by those who use the word essence for they know not what. They suppose a certain number of these essences, according to which all natural things are made. Each natural thing shares exactly in one of them, and so becomes of this or that species.

The other, more rational opinion is held by those who regard all natural things as having a real but unknown constitution of their insensible parts. From this constitution flow the sensible qualities that serve us to distinguish things from one another, as we have occasion to rank them into sorts under common names. The first of these opinions supposes these essences to be a certain number of forms or molds, into which all existing natural things are cast and in which they equally share. I imagine it has greatly confused the knowledge of natural things.

Births with severe malformations are frequently produced in every species of animal. Among human births there are severely intellectually disabled children and other strange outcomes. All these bring difficulties that cannot possibly be reconciled with this hypothesis. For it is as impossible that two things sharing exactly the same real essence should have different properties as that two figures sharing the same real essence of a circle should have different properties.

But even if there were no other reason against it, this supposition would still fail. It supposes essences that cannot be known, and yet makes them what distinguishes the species of things. That is so wholly useless and unserviceable to any part of our knowledge that this alone would be enough to make us set it aside. We should be content instead with such essences of the sorts or species of things as come within the reach of our knowledge. When seriously considered, these will be found, as I have said, to be nothing but the abstract complex ideas to which we have attached distinct general names.

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3.3.18 *Real and nominal essence the same in simple ideas and modes, different in substances.*—Essences being thus distinguished into nominal and real, we may farther observe, that in the species of simple ideas and modes, they are always the same, but in substances, always quite different. Thus a figure, including a space between three lines, is the real as well as nominal essence of a triangle; it being not only the abstract idea to which the general name is annexed, but the very *essentia* or being of the thing itself, that foundation from which all its properties flow, and to which they are all inseparably annexed.

But it is far otherwise concerning that parcel of matter which makes the ring on my finger, wherein these two essences are apparently different. For it is the real constitution of its insensible parts, on which depend all those properties of colour, weight, fusibility, fixedness, &c. which are to be found in it, which constitution we know not, and so having no particular idea of, have no name that is the sign of it. But yet it is its colour, weight, fusibility, fixedness, &c.

which makes it to be gold, or gives it a right to that name, which is therefore its nominal essence; since nothing can be called gold, but what has a conformity of qualities to that abstract complex idea to which that name is annexed. But this distinction of essences belonging particularly to substances, we shall, when we come to consider their names, have an occasion to treat of more fully.

3.3.19 *Essences ingenerable and incorruptible.*—That such abstract ideas, with names to them, as we have been speaking of, are essences, may farther appear by what we are told concerning essences, viz. that they are all ingenerable and incorruptible: which cannot be true of the real constitutions of things, which begin and perish with them. All things that exist, besides their author, are all liable to change; especially those things we are acquainted with, and have ranked into bands under distinct names or ensigns. Thus that which was grass to-day is to-morrow the flesh of a sheep, and within a few days after becomes part of a man: in all which, and the like changes, it is evident their real essence, i.

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Real and nominal essence the same in simple ideas and modes, different in substances.—Having distinguished essences in this way into nominal and real, we may further observe that in the species of simple ideas and modes the two are always the same, but in substances they are always quite different. Thus a figure enclosing a space between three lines is the real as well as the nominal essence of a triangle. It is not only the abstract idea to which the general name is attached. It is the very *essentia*, or being, of the thing itself: the foundation from which all its properties flow, and to which they are all inseparably attached.

But it is quite otherwise with the parcel of matter that makes up the ring on my finger. There the two essences are evidently different. All the properties found in it, such as color, weight, fusibility, fixedness and the rest, depend on the real constitution of its insensible parts. We do not know that constitution, and since we have no particular idea of it, we have no name that is the sign of it. Yet it is its color, weight, fusibility, fixedness, and so on,[6]

that make it gold, or give it a right to that name. These qualities are therefore its nominal essence, since nothing can be called gold unless its qualities conform to the abstract complex idea to which that name is attached. But since this distinction of essences belongs particularly to substances, we will have occasion to treat it more fully when we come to consider their names.

Essences ingenerable and incorruptible.—That such abstract ideas with their names are essences, in the sense we have been speaking of, appears further from what we are told about essences, namely, that they are all ingenerable and incorruptible. This cannot be true of the real constitutions of things, which begin and perish with them. Everything that exists, apart from its author, is liable to change. This is especially true of the things we are acquainted with and have ranked into bands under distinct names or ensigns. Thus what was grass today is tomorrow the flesh of a sheep, and a few days later becomes part of a man. In all

6 "Fixedness": in the chemistry of the day, a substance's resistance to being dispersed or evaporated by fire.

e. that constitution, whereon the properties of these several things depended, is destroyed, and perishes with them. But essences being taken for ideas, established in the mind, with names annexed to them, they are supposed to remain steadily the same, whatever mutations the particular substances are liable to. For whatever becomes of Alexander and Bucephalus, the ideas to which man and horse are annexed are supposed nevertheless to remain the same; and so the essences of those species are preserved whole and undestroyed, whatever changes happen to any or all of the individuals of those species. By this means, the essence of a species rests safe and entire, without the existence of so much as one individual of that kind.

For were there now no circle existing any where in the world (as perhaps that figure exists not any where exactly marked out), yet the idea annexed to that name would not cease to be what it is; nor cease to be as a pattern to determine which of the particular figures we meet with have or have not a right to the name circle, and so to show which of them, by having that essence, was of that species.

And though there neither were nor had been in nature such a beast as an unicorn, or such a fish as a mermaid; yet supposing those names to stand for complex abstract ideas, that contained no inconsistency in them, the essence of a mermaid is as intelligible as that of a man; and the idea of an unicorn as certain, steady, and permanent as that of a horse. From what has been said, it is evident, that the doctrine of the immutability of essences proves them to be only abstract ideas, and is founded on the relation established between them and certain sounds as signs of them; and will always be true as long as the same name can have the same signification.

3.3.20 *Recapitulation.*—To conclude, this is that which in short I would say, viz. that all the great business of genera and species, and their essences, amounts to no more but this, that men making abstract ideas, and settling them in their minds with names annexed to them, do thereby enable themselves to consider things, and discourse of them, as it were in bundles, for the easier and

these changes and others like them, it is evident that their real essence—

that is, the constitution on which the properties of these various things depended—is destroyed and perishes with them. But if essences are taken to be ideas established in the mind, with names attached to them, they are supposed to remain steadily the same, whatever changes the particular substances undergo. Whatever becomes of Alexander and Bucephalus, the ideas to which the names man and horse are attached are still supposed to remain the same. And so the essences of those species are preserved whole and undestroyed, whatever changes happen to any or all of the individuals of those species. In this way the essence of a species remains safe and entire even if not a single individual of that kind exists.

For even if there were now no circle existing anywhere in the world (as perhaps that figure is nowhere exactly traced out), the idea attached to that name would not cease to be what it is. Nor would it cease to serve as a pattern for deciding which of the particular figures we meet with have a right to the name circle and which do not. It would still show which of them, by having that essence, belonged to that species.

Suppose there neither were nor had ever been in nature such a beast as a unicorn, or such a fish as a mermaid. Still, if those names stand for complex abstract ideas that contain no inconsistency, the essence of a mermaid is as intelligible as that of a man, and the idea of a unicorn is as certain, steady, and permanent as that of a horse. From what has been said, it is evident that the doctrine of the immutability of essences proves them to be nothing but abstract ideas. It is founded on the relation established between these ideas and certain sounds as their signs, and it will always be true as long as the same name can have the same signification.

Recapitulation.—To conclude, this is what I would say in short. All the great business of genera and species and their essences amounts to no more than this: men make abstract ideas and settle them in their minds with names attached, and by doing so they enable themselves to consider things and talk about them in bundles, as it were. This lets them improve and communicate their

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	readier improvement and communication of their knowledge; which would advance but slowly, were their words and thoughts confined only to particulars.	knowledge more easily and readily. Their knowledge would advance only slowly if their words and thoughts were confined to particulars.

THE NAMES OF SIMPLE IDEAS

Names of simple ideas cannot be defined; the idea must come through the senses themselves.

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3.4.1	*Names of simple ideas, modes, and substances, have each something peculiar.*—Though all words, as I have shown, signify nothing immediately, but the ideas in the mind of the speaker; yet upon a nearer survey we shall find that the names of simple ideas, mixed modes (under which I comprised relations too,) and natural substances, have each of them something peculiar and different from the other. For example:	*Names of simple ideas, modes, and substances, have each something peculiar.*—As I have shown, all words immediately signify nothing but the ideas in the mind of the speaker. Yet on a closer look we will find that the names of simple ideas, of mixed modes (under which I included relations too), and of natural substances each have something peculiar to them and different from the others. For example:
3.4.2	*First, names of simple ideas and substances intimate real existence.—First*, The names of simple ideas and substances, with the abstract ideas in the mind which they immediately signify, intimate also some real existence, from which was derived their original pattern. But the names of mixed modes terminate in the idea that is in the mind, and lead not the thoughts any farther, as we shall see more at large in the following chapter.	*First, names of simple ideas and substances intimate real existence.—First*, the names of simple ideas and of substances, along with the abstract ideas in the mind that they immediately signify, also point to some real existence from which their original pattern was derived. But the names of mixed modes end in the idea that is in the mind and lead our thoughts no further, as we will see at greater length in the following chapter.
3.4.3	*Secondly, names of simple ideas and modes signify always both real and nominal essence.—Secondly*, The names of simple ideas and modes signify always the real as well as nominal essence of their species. But the names of natural substances signify rarely, if ever, any thing but barely the nominal essences of those species; as we shall show in the chapter that treats of the names of substances in particular.	*Secondly, names of simple ideas and modes signify always both real and nominal essence.—Secondly*, the names of simple ideas and modes always signify the real as well as the nominal essence of their species. But the names of natural substances rarely, if ever, signify anything but the bare nominal essences of those species, as we will show in the chapter that deals specifically with the names of substances.
3.4.4	*Thirdly, names of simple ideas undefinable.—Thirdly*, The names of simple ideas are not capable of any definition; the names of all complex ideas are. It has not, that I know, been yet observed by any body what words are, and what are not capable of being defined; the want whereof is (as I am apt to think) not seldom the occasion of great wrangling and obscurity in men's discourses, while some demand definitions of terms that cannot be defined; and others think they ought not to rest satisfied in an explication made by a more general word, and its restriction (or, to speak in	*Thirdly, names of simple ideas undefinable.—Thirdly*, the names of simple ideas cannot be defined; the names of all complex ideas can. As far as I know, nobody has yet pointed out which words can be defined and which cannot. The lack of this is, I am inclined to think, often the cause of great wrangling and obscurity in people's discussions. Some demand definitions of terms that cannot be defined. Others think they ought not to rest satisfied with an explanation given by a more general word and its restriction (or, in technical terms, by

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terms of art, by a genus and difference,) when even after such definition made according to rule, those who hear it have often no more a clear conception of the meaning of the word than they had before.

This at least I think, that the showing what words are, and what are not capable of definitions, and wherein consists a good definition, is not wholly beside our present purpose; and perhaps will afford so much light to the nature of these signs, and our ideas, as to deserve a more particular consideration.

3.4.5 *If all were definable, it would be a process in infinitum.*—I will not here trouble myself to prove that all terms are not definable from that progress in infinitum, which it will visibly lead us into, if we should allow that all names could be defined. For if the terms of one definition were still to be defined by another, where at last should we stop? But I shall, from the nature of our ideas, and the signification of our words, show why some names can, and others cannot, be defined, and which they are.

3.4.6 *What a definition is.*—I think it is agreed that a definition is nothing else, but the showing the meaning of one word by several other not synonymous terms. The meaning of words being only the ideas they are made to stand for by him that uses them, the meaning of any term is then shown, or the word is defined, when by other words the idea it is made the sign of, and annexed to, in the mind of the speaker, is, as it were, represented or set before the view of another, and thus its signification ascertained; this is the only use and end of definitions, and therefore the only measure of what is, or is not a good definition.

3.4.7 *Simple ideas why undefinable.*—This being premised, I say that the names of simple ideas, and those only, are incapable of being defined. The reason whereof is this; that the several terms of a definition, signifying several ideas, they can altogether by no means represent an idea, which has no composition at all: and therefore a definition, which is properly nothing but the showing the meaning of one word by several others not signifying each the same thing, can in the names of simple ideas have no place.

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a genus and difference), even though, after a definition has been made in this way according to rule, those who hear it often have no clearer conception of the word's meaning than they had before.

This much at least I think: showing which words can and which cannot be defined, and what a good definition consists in, is not wholly beside our present purpose. It may perhaps throw enough light on the nature of these signs, and of our ideas, to deserve closer consideration.

If all were definable, it would be a process in infinitum.—I will not trouble myself here to prove that not all terms are definable by pointing to the infinite regress we would plainly be led into if we allowed that all names could be defined. For if the terms of one definition always had to be defined by another, where would we finally stop? Instead I will show, from the nature of our ideas and the signification of our words, why some names can be defined and others cannot, and which ones they are.

What a definition is.—I think it is agreed that a definition is nothing but showing the meaning of one word by several other terms that are not synonymous with it. The meaning of words is only the ideas they are made to stand for by the person who uses them. So the meaning of a term is shown, or the word is defined, when other words represent the idea it signifies in the speaker's mind, or set that idea, as it were, before another person's view, and in this way pin down its signification. This is the only use and purpose of definitions, and therefore the only measure of what is or is not a good definition.

Simple ideas why undefinable.—With this laid down, I say that the names of simple ideas, and only those, cannot be defined. The reason is this. The several terms of a definition signify several ideas, so taken together they can in no way represent an idea that has no composition at all. A definition is properly nothing but showing the meaning of one word by several others, each of which signifies something different, and so it can have no place in the names of simple ideas.

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Instances; motion.—The not observing this difference in our ideas, and their names, has produced that eminent trifling in the schools, which is so easy to be observed in the definitions they give us of some few of these simple ideas. For as to the greatest part of them, even those masters of definitions were fain to leave them untouched, merely by the impossibility they found in it. What more exquisite jargon could the wit of man invent than this definition, "The act of a being in power as far forth as in power?" which would puzzle any rational man, to whom it was not already known by its famous absurdity, to guess what word it could ever be supposed to be the explication of.

If Tully, asking a Dutchman what "*beweeginge*" was, should have received this explication in his own language, that it was *"actus entis in potentia quatenus in potentia;*" I ask whether any one can imagine he could thereby have understood what the word "*beweeginge*" signed, or have guessed what idea a Dutchman ordinarily had in his mind, and would signify to another, when he used that sound.

3.4.9 Nor have the modern philosophers, who have endeavoured to throw off the jargon of the schools, and speak intelligibly, much better succeeded in defining simple ideas, whether by explaining their causes, or any otherwise. The atomists, who define motion to be a passage from one place to another, what do they more than put one synonymous word for another? For what is passage other than motion? And if they were asked what passage was, how could they better define it than by motion? For is it not at least as proper and significant to say, passage is a motion from one place to another, as to say, motion is a passage, &c.?

This is to translate, and not to define, when we change two words of the same signification one for another; which, when one is better understood than the other, may serve to discover what idea the unknown stands for; but is very far from a definition, unless we will say, every English word in the dictionary is the definition of the Latin word it answers, and that motion is a definition of *motus*. Nor will the successive

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Instances; motion.—Because people have failed to notice this difference in our ideas and their names, the schools have produced that notable trifling which is so easy to see in the definitions they give us of a few of these simple ideas. Most of them even those masters of definition were obliged to leave untouched, simply because they found it impossible. What more exquisite jargon could human wit invent than this definition: "The act of a being in power, insofar as it is in power"? It would puzzle any rational man who did not already know it by its famous absurdity to guess what word it could ever be supposed to explain.[7]

Suppose Cicero had asked a Dutchman what "*beweeginge*" was, and had received this explanation in his own language: that it was "*actus entis in potentia quatenus in potentia*." I ask whether anyone can imagine that this would have taught him what the word "*beweeginge*" signified. Could he have guessed what idea a Dutchman ordinarily had in his mind, and meant to convey to another, when he used that sound?[8]

Nor have the modern philosophers, who have tried to throw off the jargon of the schools and speak intelligibly, had much more success in defining simple ideas, whether by explaining their causes or in any other way. The atomists define motion as a passage from one place to another. What do they do but put one synonymous word for another? For what is passage but motion? And if they were asked what passage was, how could they define it better than by motion? Is it not at least as proper and meaningful to say that passage is a motion from one place to another as to say that motion is a passage, and so on?

When we exchange two words of the same signification for one another, we are translating, not defining. If one word is better understood than the other, this may help to reveal what idea the unknown one stands for. But it is very far from a definition, unless we are willing to say that every English word in the dictionary is the definition of the Latin word it corresponds to, and that motion is a definition of *motus*. The Cartesians give us the

7 The scholastic rendering of Aristotle's definition of motion (*Physics* 3.1), "power" meaning potentiality.
8 Locke writes "Tully," the usual English name for Cicero then. *Beweeginge* is Dutch for "motion"; the Latin is the definition just quoted.

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application of the parts of the superficies of one body to those of another, which the Cartesians give us, prove a much better definition of motion, when well examined.

3.4.10 *Light.*—"The act of perspicuous, as far forth as perspicuous," is another peripatetic definition of a simple idea; which though not more absurd than the former of motion, yet betrays its uselessness and insignificancy more plainly, because experience will easily convince any one, that it cannot make the meaning of the word light (which it pretends to define) at all understood by a blind man; but the definition of motion appears not at first sight so useless, because it escapes this way of trial. For this simple idea, entering by the touch as well as sight, it is impossible to show an example of any one, who has no other way to get the idea of motion but barely by the definition of that name.

Those who tell us that light is a great number of little globules, striking briskly on the bottom of the eye, speak more intelligibly than the schools; but yet these words, ever so well understood, would make the idea the word light stands for no more known to a man that understands it not before, than if one should tell him that light was nothing but a company of little tennis-balls, which fairies all day long struck with rackets against some men's foreheads, whilst they passed by others.

For granting this explication of the thing to be true, yet the idea of the cause of light, if we had it ever so exact, would no more give us the idea of light itself, as it is such a particular perception in us, than the idea of the figure and motion of a sharp piece of steel would give us the idea of that pain which it is able to cause in us. For the cause of any sensation, and the sensation itself, in all the simple ideas of one sense, are two ideas; and two ideas so different and distant from one another, that no two can be more so.

And, therefore, should Des Cartes's globules strike ever so long on the *retina* of a man, who was blind by a *gutta serena*, he would thereby never have any idea of light, or any thing approaching it, though he understood what little globules were, and what striking on another body was, ever so

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successive application of the parts of the surface of one body to those of another, and when properly examined this will not prove a much better definition of motion.

Light.—"The act of the transparent, insofar as it is transparent" is another Peripatetic definition of a simple idea. It is no more absurd than the earlier definition of motion, but it betrays its uselessness and emptiness more plainly. Experience will easily convince anyone that it cannot make a blind man understand the meaning of the word light, which it claims to define, in the least. The definition of motion does not seem so useless at first sight, because it escapes this kind of test. Since this simple idea enters by touch as well as by sight, it is impossible to point to anyone who has no way of getting the idea of motion except the bare definition of the name.[9]

Those who tell us that light is a great number of little globules striking briskly on the back of the eye speak more intelligibly than the schools. Yet however well these words are understood, they would make the idea that the word light stands for no better known to a man who did not understand it before than if someone told him that light was nothing but a crowd of little tennis balls, which fairies hit with rackets all day long against some men's foreheads while passing others by.

For even granting that this explanation of the thing is true, the idea of the cause of light, however exact, would no more give us the idea of light itself, as it is a particular perception in us, than the idea of the shape and motion of a sharp piece of steel would give us the idea of the pain it can cause in us. In all the simple ideas of any one sense, the cause of a sensation and the sensation itself are two ideas, and they are so different and so distant from each other that no two ideas could be more so.

And so, however long Descartes's globules struck on the *retina* of a man blinded by a *gutta serena*, he would never get from them any idea of light, or of anything like it, however well he understood what little globules were and what striking on another body was. That is why the Cartesians rightly dis-

9 Aristotle's definition of light (*De Anima* 2.7); "Peripatetic" means Aristotelian. Locke's word for "transparent" is "perspicuous."

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well. And therefore the Cartesians very well distinguish between the light which is the cause of that sensation in us, and the idea which is produced in us by it, and is that which is properly light.

3.4.11 *Simple ideas, why undefinable, farther explained.*— Simple ideas, as has been shown, are only to be got by those impressions objects themselves make on our minds, by the proper inlets appointed to each sort. If they are not received this way, all the words in the world, made use of to explain or define any of their names, will never be able to produce in us the idea it stands for. For words, being sounds, can produce in us no other simple ideas than of those very sounds, nor excite any in us but by that voluntary connexion which is known to be between them and those simple ideas, which common use has made them signs of.

He that thinks otherwise, let him try if any words can give him the taste of a pine-apple, and make him have the true idea of the relish of that celebrated delicious fruit. So far as he is told it has a resemblance with any tastes, whereof he has the ideas already in his memory, imprinted there by sensible objects not strangers to his palate, so far may he approach that resemblance in his mind. But this is not giving us that idea by a definition, but exciting in us other simple ideas by their known names; which will be still very different from the true taste of that fruit itself.

In light and colours, and all other simple ideas, it is the same thing; for the signification of sounds is not natural, but only imposed and arbitrary. And no definition of light or redness is more fitted, or able to produce either of those ideas in us, than the sound light, or red, by itself.

For to hope to produce an idea of light or colour by a sound, however formed, is to expect that sounds should be visible, or colours audible, and to make the ears do the office of all the other senses: which is all one as to say, that we might taste, smell, and see by the ears; a sort of philosophy worthy only of Sancho Pancha, who had the faculty to see Dulcinea by hearsay. And therefore he that has not before received into his mind, by the proper inlet, the simple idea which

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tinguish between the light that causes that sensation in us and the idea that it produces in us, which is what is properly light.[10]

Simple ideas, why undefinable, farther explained.— Simple ideas, as has been shown, can only be got from the impressions that objects themselves make on our minds through the proper inlets appointed for each sort. If they are not received in this way, all the words in the world used to explain or define any of their names will never be able to produce in us the idea the name stands for. Words are sounds, and so they can produce in us no simple ideas except those of the very sounds themselves. They can excite no others except through the voluntary connection known to exist between them and the simple ideas that common use has made them signs of.

Anyone who thinks otherwise should try whether any words can give him the taste of a pineapple and give him the true idea of the flavor of that celebrated, delicious fruit. He may be told that it resembles tastes whose ideas he already has in his memory, imprinted there by sensible objects familiar to his palate. To that extent he may approach that resemblance in his mind. But this is not giving us that idea by a definition. It is exciting other simple ideas in us by their known names, and these will still be very different from the true taste of the fruit itself.

It is the same with light and colors and all other simple ideas, because the signification of sounds is not natural but only imposed and arbitrary. No definition of light or redness is better fitted or better able to produce either of those ideas in us than the sound light or red by itself.

To hope to produce an idea of light or color by a sound, however it is formed, is to expect sounds to be visible or colors audible, and to make the ears do the work of all the other senses. That amounts to saying that we might taste, smell, and see with our ears. It is a philosophy worthy only of Sancho Panza, who had the ability to see Dulcinea by hearsay. Therefore anyone who has not first received into his mind, through the proper inlet, the

10 *Gutta serena*: an old term for blindness in which the eye itself looks normal.

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any word stands for, can never come to know the signification of that word by any other words or sounds whatsoever, put together according to any rules of definition.

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simple idea a word stands for can never come to know the signification of that word by any other words or sounds whatever, however they are put together according to rules of definition.[11]

THE BLIND MAN AND SCARLET

A studious blind man decides scarlet is like a trumpet's sound; a painter wins a prize over a sculptor.

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The only way is by applying to his senses the proper object, and so producing that idea in him, for which he has learned the name already. A studious blind man, who had mightily beat his head about visible objects, and made use of the explication of his books and friends to understand those names of light and colours which often came in his way, bragged one day that he now understood what scarlet signified. Upon which his friend demanding what scarlet was? the blind man answered, it was like the sound of a trumpet.

Just such an understanding of the name of any other simple idea will he have, who hopes to get it only from a definition, or other words made use of to explain it.

3.4.12 *The contrary showed in complex ideas, by instances of a statue and rainbow.*—The case is quite otherwise in complex ideas; which consisting of several simple ones, it is in the power of words, standing for the several ideas that make that composition, to imprint complex ideas in the mind which were never there before, and so make their names be understood.

In such collections of ideas, passing under one name, definition, or the teaching the signification of one word by several others, has place, and may make us understand the names of things which never came within the reach of our senses; and frame ideas suitable to those in other men's minds, when they use those names: provided that none of the terms of the definition stand for any such simple ideas, which he to whom the explication is made has never yet had in his thought. Thus the word statue may be explained to a blind man by other words, when picture cannot; his senses having given him the idea of

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The only way is to present the proper object to his senses and so produce in him the idea whose name he has already learned. A studious blind man had racked his brains over visible objects and had used the explanations of his books and friends to understand the names of light and colors that often came his way. One day he boasted that he now understood what scarlet signified. When his friend asked him what scarlet was, the blind man answered that it was like the sound of a trumpet.

Anyone who hopes to understand the name of any other simple idea only from a definition, or from other words used to explain it, will understand it in just this way.

The contrary showed in complex ideas, by instances of a statue and rainbow.—The case is quite different with complex ideas. They consist of several simple ones, and so words that stand for those simple ideas have the power to imprint on the mind complex ideas that were never there before, and in this way to make their names understood.

In such collections of ideas passing under one name, definition, meaning the teaching of the signification of one word by several others, has a place. It can make us understand the names of things that never came within reach of our senses, and form ideas matching those in other men's minds when they use those names. This holds provided that none of the terms of the definition stands for a simple idea that the person being taught has never yet had in his thoughts. Thus the word statue can be explained to a blind man by other words, but picture cannot. His senses have given him the idea of shape but not of colors, and so words cannot excite the ideas of colors in him.

11 In Cervantes' *Don Quixote*, Sancho claims to have seen his master's lady Dulcinea, whom he knows only by report.

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figure, but not of colours, which therefore words cannot excite in him.

This gained the prize to the painter against the statuary: each of which contending for the excellency of his art, and the statuary bragging that his was to be preferred, because it reached farther, and even those who had lost their eyes could yet perceive the excellency of it, the painter agreed to refer himself to the judgment of a blind man; who being brought where there was a statue, made by the one, and a picture drawn by the other; he was first led to the statue, in which he traced with his hands all the lineaments of the face and body, and with great admiration applauded the skill of the workman.

But being led to the picture, and having his hands laid upon it, was told that now he touched the head, and then the forehead, eyes, nose, &c. as his hands moved over the parts of the picture on the cloth, without finding any the least distinction: whereupon he cried out, that certainly that must needs be a very admirable and divine piece of workmanship, which could represent to them all those parts where he could neither feel nor perceive any thing.

3.4.13 He that should use the word rainbow to one who knew all those colours, but yet had never seen that phenomenon, would, by enumerating the figure, largeness, position, and order of the colours, so well define that word, that it might be perfectly understood. But yet that definition, how exact and perfect soever, would never make a blind man understand it; because several of the simple ideas that make that complex one, being such as he never received by sensation and experience, no words are able to excite them in his mind.

3.4.14 *The names of complex ideas when to be made intelligible by words.*—Simple ideas, as has been shown, can only be got by experience, from those objects which are proper to produce in us those perceptions. When by this means we have our minds stored with them, and know the names for them, then we are in a condition to define, and by definition to understand the names of complex ideas, that are made up of them. But when any term stands for a simple idea, that a man has never yet had in his mind, it is impossible by any words to make known its meaning to him.

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This is how the painter won the prize against the sculptor. Each was contending for the excellence of his own art. The sculptor boasted that his deserved preference because it reached further, since even those who had lost their eyes could still perceive its excellence. The painter agreed to submit to the judgment of a blind man. The blind man was brought to a place where there was a statue made by the one and a picture painted by the other. He was first led to the statue, where he traced with his hands all the features of the face and body, and with great admiration applauded the skill of the workman.

Then he was led to the picture and his hands were laid on it. As his hands moved over the parts of the picture on the canvas, he was told that now he was touching the head, and then the forehead, the eyes, the nose, and so on, though he could not find the slightest difference anywhere. At this he cried out that it must certainly be a most admirable and divine piece of workmanship, since it could represent to them all those parts where he could neither feel nor perceive anything.

Suppose someone used the word rainbow to a person who knew all those colors but had never seen that phenomenon. By listing the shape, size, position, and order of the colors, he could define the word so well that it would be perfectly understood. Yet that definition, however exact and perfect, would never make a blind man understand it. Several of the simple ideas that make up that complex one are ideas he never received by sensation and experience, and no words can excite them in his mind.

The names of complex ideas when to be made intelligible by words.—Simple ideas, as has been shown, can only be got by experience, from the objects suited to produce those perceptions in us. Once our minds have been stocked with them in this way and we know their names, we are in a position to define the names of the complex ideas made up of them, and to understand those names by definition. But when a term stands for a simple idea that a man has never yet had in his mind, it is

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When any term stands for an idea a man is acquainted with, but is ignorant that that term is a sign of it; there another name, of the same idea which he has been accustomed to, may make him understand its meaning. But in no case whatsoever is any name of any simple idea capable of a definition.

3.4.15 *Fourthly, names of simple ideas least doubtful.—Fourthly*, But though the names of simple ideas have not the help of definition to determine their signification; yet that hinders not but that they are generally less doubtful and uncertain, than those of mixed modes and substances; because they standing only for one simple perception, men, for the most part, easily and perfectly agree in their signification; and there is little room for mistake and wrangling about their meaning.

He that knows once that whiteness is the name of that colour he has observed in snow or milk, will not be apt to misapply that word, as long as he retains that idea; which when he has quite lost, he is not apt to mistake the meaning of it, but perceives he understands it not. There is neither a multiplicity of simple ideas, to be put together, which makes the doubtfulness in the names of mixed modes; nor a supposed but an unknown real essence, with properties depending thereon, the precise number whereof is also unknown, which makes the difficulty in the names of substances.

But on the contrary, in simple ideas the whole signification of the name is known at once, and consists not of parts, whereof more or less being put in, the idea may be varied, and so the signification of name be obscure and uncertain.

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impossible to make its meaning known to him by any words.

Sometimes a term stands for an idea a man is acquainted with, but he does not know that the term is its sign. Then another name for the same idea, one he is used to, may make him understand its meaning. But in no case whatever can any name of a simple idea be defined.

Fourthly, names of simple ideas least doubtful.—Fourthly, the names of simple ideas lack the help of definition to fix their signification. Even so, they are generally less doubtful and uncertain than the names of mixed modes and substances. Because they stand for only one simple perception, men for the most part agree easily and perfectly on their signification, and there is little room for mistakes and wrangling about their meaning.

Once a man knows that whiteness is the name of the color he has observed in snow or milk, he will not be likely to misapply that word as long as he retains that idea. And if he has lost the idea altogether, he is not likely to mistake the word's meaning; he simply sees that he does not understand it. In simple ideas there is no multiplicity of simple ideas to be put together, which is what makes the names of mixed modes doubtful. Nor is there a supposed but unknown real essence, with properties depending on it whose precise number is also unknown, which is what causes the difficulty in the names of substances.

On the contrary, in simple ideas the whole signification of the name is known at once. It does not consist of parts, where putting in more or fewer might vary the idea and so make the signification of the name obscure and uncertain.

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3.4.16	*Fifthly, simple ideas have few ascents in linea prædicamentali.—Fifthly*, This farther may be observed concerning simple ideas and their names, that they have but few ascents in *linea prædicamentali* (as they call it) from the lowest species to the *summum genus*. The reason whereof is, that the lowest species being but one simple idea, nothing can be left out of it; that so the difference being taken away, it may agree with some other thing in one idea common to them both; which, having one name, is the genus of the other two: v. g. there is nothing that can be left out of the idea of white and red, to make them agree in one common appearance, and so have one general name; as rationality being left out of the complex idea of man, makes it agree with brute, in the more general idea and name of animal: and therefore when, to avoid unpleasant enumerations, men would comprehend both white and red, and several other such simple ideas under one general name, they have been fain to do it by a word which denotes only the way they get into the mind. For when white, red, and yellow are all comprehended under the genus or name colour, it signifies no more but such ideas as are produced in the mind only by the sight, and have entrance only through the eyes. And when they would frame yet a more general term, to comprehend both colours and sounds, and the like simple ideas, they do it by a word that signifies all such as come into the mind only by one sense: and so the general term quality, in its ordinary acceptation, comprehends colours, sounds, tastes, smells, and tangible qualities, with distinction from extension, number, motion, pleasure, and pain, which make impressions on the mind, and introduce their ideas by more senses than one.	*Fifthly, simple ideas have few ascents in linea prædicamentali.—Fifthly*, it may further be observed about simple ideas and their names that they have only a few steps of ascent in the *linea prædicamentali* (as it is called), from the lowest species to the *summum genus*. The reason is that the lowest species is only one simple idea, so nothing can be left out of it. We cannot take away the difference so that it agrees with some other thing in one idea common to both, an idea which, having one name, would be the genus of the other two.[12] For example, nothing can be left out of the ideas of white and red that would make them agree in one common appearance and so have one general name. Compare the complex idea of man: leaving rationality out of it makes it agree with brute in the more general idea and name of animal. So when men wanted to avoid tedious lists and include white and red and several other such simple ideas under one general name, they have had to do it by a word that indicates only the way these ideas get into the mind. When white, red, and yellow are all included under the genus or name color, it signifies nothing more than such ideas as are produced in the mind only by sight and enter only through the eyes. And when they wanted to form a still more general term, to include both colors and sounds and similar simple ideas, they did it by a word signifying all those ideas that come into the mind by only one sense. So the general term quality, in its ordinary sense, includes colors, sounds, tastes, smells, and tangible qualities. It excludes extension, number, motion, pleasure, and pain, which make impressions on the mind and bring in their ideas through more than one sense.
3.4.17	*Sixthly, names of simple ideas stand for ideas, not at all arbitrary.—Sixthly*, The names of simple ideas, substances, and mixed modes, have also this difference; that those of mixed modes stand for ideas perfectly arbitrary; those of substances are not perfectly so, but refer to a pattern, though	*Sixthly, names of simple ideas stand for ideas, not at all arbitrary.—Sixthly*, the names of simple ideas, substances, and mixed modes also differ in this. The names of mixed modes stand for ideas that are perfectly arbitrary. The names of substances are not perfectly so, but refer to a pattern, though

12 *Linea prædicamentali*: the scholastic "line of predication," the ladder from the lowest species up to the *summum genus*, the highest genus.

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with some latitude; and those of simple ideas are perfectly taken from the existence of things, and are not arbitrary at all. Which, what difference it makes in the significations of their names, we shall see in the following chapters.

The names of simple modes differ little from those of simple ideas.

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with some latitude. The names of simple ideas are taken wholly from the existence of things and are not arbitrary at all. We will see in the following chapters what difference this makes in the significations of their names.

The names of simple modes differ little from those of simple ideas.

THE NAMES OF MIXED MODES AND RELATIONS

The mind makes mixed modes freely, without patterns in nature, and the name ties each combination together.

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3.5.1 *They stand for abstract ideas, as well as other general names.*—The names of mixed modes being general, they stand, as has been shown, for sorts or species of things, each of which has its peculiar essence. The essences of these species also, as has been shown, are nothing but the abstract ideas in the mind, to which the name is annexed. Thus far the names and essences of mixed modes have nothing but what is common to them with other ideas; but if we take a little nearer survey of them, we shall find that they have something peculiar, which perhaps may deserve our attention.

3.5.2 *First, the ideas they stand for are made by the understanding.*—The first particularity I shall observe in them is, that the abstract ideas, or, if you please, the essences of the several species of mixed modes are made by the understanding, wherein they differ from those of simple ideas: in which sort the mind has no power to make any one, but only receives such as are presented to it by the real existence of things operating upon it.

3.5.3 *Secondly, made arbitrarily, and without patterns.*—In the next place, these essences of the species of mixed modes are not only made by the mind, but made very arbitrarily, made without patterns, or reference to any real existence. Wherein they differ from those of substances, which carry with them the supposition of some real being, from which they are taken, and to which they are conformable. But in its complex ideas of mixed modes, the mind takes a liberty not to follow the existence of things exactly. It unites and retains certain collections, as so many distinct specific ideas, whilst others, that as often occur in nature, and are as plainly suggested by outward things,

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They stand for abstract ideas, as well as other general names.—Since the names of mixed modes are general, they stand, as has been shown, for sorts or species of things, each of which has its own essence. The essences of these species, too, as has been shown, are nothing but the abstract ideas in the mind to which the name is attached. So far the names and essences of mixed modes have only what they share with other ideas. But if we look at them a little more closely, we will find that they have something peculiar that may deserve our attention.

First, the ideas they stand for are made by the understanding.—The first peculiarity I will point out in them is that the abstract ideas, or if you like the essences, of the various species of mixed modes are made by the understanding. In this they differ from those of simple ideas. With simple ideas the mind has no power to make any at all. It only receives those that the real existence of things presents to it by acting on it.

Secondly, made arbitrarily, and without patterns.—Next, these essences of the species of mixed modes are not only made by the mind but made very arbitrarily, without patterns or reference to any real existence. In this they differ from those of substances, which carry with them the supposition of some real being from which they are taken and to which they conform. In its complex ideas of mixed modes, however, the mind takes the liberty of not following the existence of things exactly. It unites and retains certain collections as so many distinct specific ideas. Meanwhile others, which occur just as often in nature and are just as plainly

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pass neglected, without particular names or specifications.

Nor does the mind, in these of mixed modes, as in the complex idea of substances, examine them by the real existence of things: or verify them by patterns, containing such peculiar compositions in nature. To know whether his idea of adultery or incest be right, will a man seek it any where among things existing? Or is it true, because any one has been witness to such an action? No: but it suffices here, that men have put together such a collection into one complex idea, that makes the archetype and specific idea, whether ever any such action were committed in *rerum natura* or no.

3.5.4 *How this is done.*—To understand this right, we must consider wherein this making of these complex ideas consists; and that is not in the making any new idea, but putting together those which the mind had before. Wherein the mind does these three things: first, it chooses a certain number; secondly, it gives them connexion, and makes them into one idea; thirdly, it ties them together by a name. If we examine how the mind proceeds in these, and what liberty it takes in them, we shall easily observe how these essences of the species of mixed modes are the workmanship of the mind, and consequently, that the species themselves are of men's making.

3.5.5 *Evidently arbitrary, in that the idea is often before the existence.*—Nobody can doubt, but that these ideas of mixed modes are made by a voluntary collection of ideas put together in the mind, independent from any original patterns in nature, who will but reflect that this sort of complex ideas may be made, abstracted, and have names given them, and so a species be constituted, before any one individual of that species ever existed.

Who can doubt but the ideas of sacrilege or adultery might be framed in the minds of men, and have names given them; and so these species of mixed modes be constituted, before either of them was ever committed; and might be as well discoursed of and reasoned about, and as certain truths discovered of them, whilst yet they had no being but in the understanding, as well as now, that they have but too frequently a real existence?

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suggested by outward things, are passed over without particular names or specifications.

Nor, in the case of mixed modes, does the mind examine its ideas against the real existence of things, as it does with its complex ideas of substances, or verify them against patterns that contain such particular combinations in nature. To know whether his idea of adultery or incest is right, will a man look for it anywhere among existing things? Or is it true because someone has witnessed such an action? No. It is enough here that men have put together such a collection into one complex idea. That collection is the archetype and specific idea, whether or not any such action was ever actually committed in the world (*in rerum natura*).

How this is done.—To understand this properly, we must consider what this making of complex ideas consists in. It does not consist in making any new idea, but in putting together ideas the mind already had. In doing so the mind does three things. First, it chooses a certain number of ideas. Second, it connects them and makes them into one idea. Third, it ties them together with a name. If we examine how the mind proceeds in these, and what liberty it takes in them, we will easily see that these essences of the species of mixed modes are the workmanship of the mind, and consequently that the species themselves are of men's making.

Evidently arbitrary, in that the idea is often before the existence.—These ideas of mixed modes are made by a voluntary collection of ideas put together in the mind, independently of any original patterns in nature. No one can doubt this who only reflects that this sort of complex idea can be made, abstracted, and given a name, and a species thus constituted, before a single individual of that species ever existed.

Who can doubt that the ideas of sacrilege or adultery could have been formed in men's minds and given names, so that these species of mixed modes were constituted, before either act had ever been committed? And who can doubt that, while they had no being except in the understanding, they could have been discussed and reasoned about, and certain truths discovered about them, just as well as now, when they all too often have a real existence?

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Whereby it is plain, how much the sorts of mixed modes are the creatures of the understanding, where they have a being as subservient to all the ends of real truth and knowledge, as when they really exist: and we cannot doubt but law-makers have often made laws about species of actions, which were only the creatures of their own understandings; beings that had no other existence but in their own minds. And I think nobody can deny, but that the resurrection was a species of mixed modes in the mind before it really existed.

3.5.6 *Instances; murder, incest, stabbing.*—To see how arbitrarily these essences of mixed modes are made by the mind, we need but take a view of almost any of them. A little looking into them will satisfy us, that it is the mind that combines several scattered independent ideas into one complex one, and, by the common name it gives them, makes them the essence of a certain species, without regulating itself by any connexion they have in nature. For what greater connexion in nature has the idea of a man, than the idea of a sheep, with killing; that this is made a particular species of action, signified by the word murder, and the other not?

Or what union is there in nature between the idea of the relation of a father, with killing, than that of a son, or neighbour: that those are combined into one complex idea, and thereby made the essence of the distinct species parricide, whilst the other makes no distinct species at all? But though they have made killing a man's father, or mother, a distinct species from killing his son, or daughter; yet, in some other cases, son and daughter are taken in too, as well as father and mother; and they are all equally comprehended in the same species, as in that of incest.

Thus the mind in mixed modes arbitrarily unites into complex ideas such as it finds convenient; whilst others, that have altogether as much union in nature, are left loose, and never combined into one idea, because they have no need of one name. It is evident, then, that the mind by its free choice gives a connexion to a certain number of ideas, which in nature have no more union with one another, than others that it leaves out: why else is the part of the weapon, the beginning of the wound is made with, taken notice of to make the

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This makes plain how far the sorts of mixed modes are creatures of the understanding. There they have a being that serves all the purposes of real truth and knowledge as well as when they really exist. And we cannot doubt that lawmakers have often made laws about species of actions that were only creatures of their own understandings, beings with no existence except in their own minds. And I think no one can deny that the resurrection was a species of mixed modes in the mind before it really existed.

Instances; murder, incest, stabbing.—To see how arbitrarily the mind makes these essences of mixed modes, we need only look at almost any of them. A little examination will satisfy us that it is the mind that combines several scattered, independent ideas into one complex one. By the common name it gives them, the mind makes them the essence of a certain species, without being guided by any connection they have in nature. Is the idea of a man connected with killing in nature any more closely than the idea of a sheep is? Yet killing a man is made a particular species of action, signified by the word murder, and killing a sheep is not.

Or is there any more union in nature between the idea of the relation of a father and killing than between that of a son or a neighbor and killing? Yet the first are combined into one complex idea, and so made the essence of the distinct species parricide, while the others make no distinct species at all. And although they have made killing one's father or mother a species distinct from killing one's son or daughter, in some other cases son and daughter are included too, just as father and mother are, and they are all equally comprehended in the same species. Incest is an example.

Thus in mixed modes the mind arbitrarily unites into complex ideas whatever combinations it finds convenient. Others, which have just as much union in nature, are left loose and never combined into one idea, because there is no need for one name for them. It is evident, then, that the mind by its free choice connects a certain number of ideas that in nature have no more union with each other than others it leaves out. Why else is attention paid to the part of the weapon with which the wound is begun, to make the distinct species

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distinct species called stabbing, and the figure and matter of the weapon left out?

I do not say this is done without reason, as we shall see more by and by; but this, I say, that it is done by the free choice of the mind, pursuing its own ends; and that therefore these species of mixed modes are the workmanship of the understanding: and there is nothing more evident, than that, for the most part, in the framing these ideas, the mind searches not its patterns in nature, nor refers the ideas it makes to the real existence of things; but puts such together, as may best serve its own purposes, without tying itself to a precise limitation of any thing that really exists.

3.5.7 *But still subservient to the end of language.*—But though these complex ideas, or essences of mixed modes, depend on the mind, and are made by it with great liberty; yet they are not made at random, and jumbled together without any reason at all. Though these complex ideas be not always copied from nature, yet they are always suited to the end for which abstract ideas are made; and though they be combinations made of ideas that are loose enough, and have as little union in themselves, as several others to which the mind never gives a connexion that combines them into one idea; yet they are always made for the convenience of communication, which is the chief end of language.

The use of language is by short sounds to signify with ease and despatch general conceptions; wherein not only abundance of particulars may be contained, but also a great variety of independent ideas collected into one complex one. In the making, therefore, of the species of mixed modes, men have had regard only to such combinations as they had occasion to mention one to another. Those they have combined into distinct complex ideas, and given names to; whilst others, that in nature have as near a union, are left loose and unregarded.

For to go no farther than human actions themselves, if they would make distinct abstract ideas of all the varieties might be observed in them, the number must be infinite, and the memory confounded with the plenty, as well as overcharged to little purpose. It suffices, that men make and name so many complex ideas of these

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called stabbing, while the shape and material of the weapon are left out?

I do not say this is done without reason, as we will see more fully shortly. What I do say is that it is done by the free choice of the mind pursuing its own ends, and that these species of mixed modes are therefore the workmanship of the understanding. Nothing is more evident than that, for the most part, in forming these ideas the mind does not look for its patterns in nature or refer the ideas it makes to the real existence of things. It puts together whatever may best serve its own purposes, without tying itself to the precise limits of anything that really exists.

But still subservient to the end of language.—These complex ideas, or essences of mixed modes, depend on the mind and are made by it with great liberty. Still, they are not made at random and jumbled together without any reason at all. Though they are not always copied from nature, they are always suited to the purpose for which abstract ideas are made. They are combinations of ideas that are loose enough, with as little union among themselves as many others that the mind never connects into one idea. Yet they are always made for the convenience of communication, which is the chief end of language.

The use of language is to signify general conceptions easily and quickly by short sounds. Such a conception may contain not only a great many particulars but also a great variety of independent ideas collected into one complex idea. In making the species of mixed modes, therefore, men have paid attention only to the combinations they had occasion to mention to one another. These they have combined into distinct complex ideas and given names to, while others that are just as closely united in nature are left loose and disregarded.

To go no further than human actions themselves: if men were to make distinct abstract ideas of all the varieties that might be observed in them, the number would be infinite, and memory would be confounded by the abundance and overloaded to little purpose. It is enough for men to make and name as many complex ideas of these mixed

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mixed modes, as they find they have occasion to have names for, in the ordinary occurrence of their affairs.

If they join to the idea of killing the idea of father, or mother, and so make a distinct species from killing a man's son or neighbour, it is because of the different heinousness of the crime, and the distinct punishment is due to the murdering a man's father and mother, different from what ought to be inflicted on the murder of a son or neighbour; and therefore they find it necessary to mention it by a distinct name, which is the end of making that distinct combination.

But though the ideas of mother and daughter are so differently treated, in reference to the idea of killing, that the one is joined with it, to make a distinct abstract idea with a name, and so a distinct species, and the other not; yet in respect of carnal knowledge, they are both taken in under incest: and that still for the same convenience of expressing under one name, and reckoning of one species, such unclean mixtures as have a peculiar turpitude beyond others: and this to avoid circumlocutions and tedious descriptions.

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modes as they find they need names for in the ordinary course of their affairs.

They may join the idea of father or mother to the idea of killing, and so make a species distinct from killing one's son or neighbor. If they do, it is because the crime differs in heinousness, and because murdering one's father or mother deserves a distinct punishment, different from the one that ought to be inflicted for murdering a son or a neighbor. So they find it necessary to refer to it by a distinct name, and that is the purpose of making that distinct combination.

With respect to the idea of killing, the ideas of mother and daughter are treated very differently. The first is joined with it to make a distinct abstract idea with a name, and so a distinct species, and the second is not. Yet with respect to sexual relations, both are included under incest. This is done for the same convenience: to express under one name, and to count as one species, those impure unions that have a particular depravity beyond others, and so to avoid roundabout phrases and tedious descriptions.

WORDS THAT CANNOT BE TRANSLATED

Words peculiar to one language, and even hour, foot and pound, show species are made for communication.

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3.5.8 *Whereof the intranslatable words of divers languages are a proof.*—A moderate skill in different languages will easily satisfy one of the truth of this, it being so obvious to observe great store of words in one language, which have not any that answer them in another. Which plainly shows, that those of one country, by their customs and manner of life, have found occasion to make several complex ideas, and given names to them, which others never collected into specific ideas. This could not have happened, if these species were the steady workmanship of nature, and not collections made and abstracted by the mind, in order to naming, and for the convenience of communication.

The terms of our law, which are not empty sounds, will hardly find words that answer them in the Spanish or Italian, no scanty languages; much less, I think, could any one translate them into the Caribbee or Westoe tongues: and the

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The untranslatable words of various languages are a proof of this.—A moderate skill in different languages will easily convince anyone of the truth of this, since it is so easy to notice a great many words in one language that have no counterpart in another. This plainly shows that the people of one country, through their customs and way of life, have found reason to make various complex ideas and give them names, which others never gathered into specific ideas. This could not have happened if these species were the steady workmanship of nature, and not collections made and abstracted by the mind for the purpose of naming and for the convenience of communication.

The terms of our law, which are not empty sounds, will hardly find words to match them in Spanish or Italian, which are not meager languages. Much less, I think, could anyone translate them into the Carib or Westo languages. And the Versura of the

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Versura of the Romans, or Corban of the Jews, have no words in other languages to answer them: the reason whereof is plain, from what has been said.

Nay, if we look a little more nearly into this matter, and exactly compare different languages, we shall find, that though they have words which in translations and dictionaries are supposed to answer one another, yet there is scarce one of ten among the names of complex ideas, especially of mixed modes, that stands for the same precise idea, which the word does that in dictionaries it is rendered by.

There are no ideas more common, and less compounded, than the measures of time, extension, and weight, and the Latin names, *hora, pes, libra*, are without difficulty rendered by the English names, hour, foot, and pound: but yet there is nothing more evident, than that the ideas a Roman annexed to these Latin names were very far different from those which an Englishman expresses by those English ones. And if either of these should make use of the measures that those of the other language designed by their names, he would be quite out in his account.

These are too sensible proofs to be doubted; and we shall find this much more so, in the names of more abstract and compounded ideas, such as are the greatest part of those which make up moral discourses; whose names, when men come curiously to compare with those they are translated into, in other languages, they will find very few of them exactly to correspond in the whole extent of their significations.

3.5.9 *This shows species to be made for communication.*— The reason why I take so particular notice of this is, that we may not be mistaken about genera and species, and their essences, as if they were things regularly and constantly made by nature, and had a real existence in things; when they appear, upon a more wary survey, to be nothing else but an artifice of the understanding, for the easier signifying such collections of ideas as it should often have occasion to communicate by one general term; under which divers particulars, as far forth as they agreed to that abstract idea, might be comprehended.

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Romans, or the Corban of the Jews, have no words in other languages to match them. The reason for this is plain from what has been said.[13]

Indeed, suppose we look a little more closely into this matter and compare different languages exactly. We shall find that they have words that translations and dictionaries treat as equivalent. Yet among the names of complex ideas, especially of mixed modes, hardly one in ten stands for exactly the same idea as the word it is rendered by in the dictionaries.

No ideas are more common, or less compounded, than the measures of time, extension, and weight. The Latin names *hora, pes, libra* are rendered without difficulty by the English names hour, foot, and pound. Yet nothing is more evident than that the ideas a Roman attached to these Latin names were very different from those an Englishman expresses by the English ones. And if either of them were to use the measures that speakers of the other language designated by their names, his reckoning would be quite wrong.

These proofs are too tangible to be doubted. We shall find this much more so in the names of more abstract and compounded ideas, which make up the greatest part of moral discourse. When people compare these names carefully with those they are translated into in other languages, they will find that very few of them correspond exactly across the whole range of their meanings.

This shows that species are made for communication. —I take such particular notice of this so that we may not be mistaken about genera and species and their essences. We should not treat them as if they were things regularly and constantly made by nature and had a real existence in things. On a more careful survey they turn out to be nothing but a device of the understanding. The understanding uses one general term to signify more easily a collection of ideas it often has occasion to communicate. Under that term various particulars

13 Carib: a language of the Caribbean; Westo: a Native American people of the Carolina region. *Versura* was the Roman practice of borrowing to pay off a debt; *corban* is a Hebrew term for something dedicated to God as an offering (cf. Mark 7:11).

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And if the doubtful signification of the word species may make it sound harsh to some, that I say the species of mixed modes are made by the understanding; yet, I think, it can by nobody be denied, that it is the mind makes those abstract complex ideas to which specific names are given. And if it be true, as it is, that the mind makes the patterns for sorting and naming of things, I leave it to be considered who makes the boundaries of the sort or species; since with me species and sort have no other difference than that of a Latin and English idiom.

3.5.10 *In mixed modes it is the name that ties the combination together, and makes it a species.*—The near relation that there is between species, essences, and their general names, at least in mixed modes, will farther appear, when we consider that it is the name that seems to preserve those essences, and give them their lasting duration. For the connexion between the loose parts of those complex ideas being made by the mind, this union which has no particular foundation in nature, would cease again, were there not something that did, as it were, hold it together, and keep the parts from scattering.

Though, therefore, it be the mind that makes the collection, it is the name which is, as it were, the knot that ties them fast together. What a vast variety of different ideas does the word *triumphus* hold together, and deliver to us as one species!

Had this name been never made, or quite lost, we might, no doubt, have had descriptions of what passed in that solemnity: but yet, I think, that which holds those different parts together, in the unity of one complex idea, is that very word annexed to it; without which the several parts of that would no more be thought to make one thing, than any other show, which, having never been made but once, had never been united into one complex idea, under one denomination.

How much, therefore, in mixed modes, the unity necessary to any essence depends on the mind, and how much the continuation and fixing of that unity depends on the name in common use annexed to it, I leave to be considered by those who look upon essences and species as real established things in nature.

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could be included, insofar as they agreed with that abstract idea.

The word "species" has an ambiguous meaning, and that may make it sound harsh to some when I say the species of mixed modes are made by the understanding. Still, I think nobody can deny that it is the mind that makes the abstract complex ideas to which specific names are given. And if it is true, as it is, that the mind makes the patterns for sorting and naming things, I leave it to be considered who makes the boundaries of the sort or species. For to me, species and sort differ only as a Latin and an English idiom do.

In mixed modes it is the name that ties the combination together and makes it a species.—The close relation between species, essences, and their general names, at least in mixed modes, will appear further when we consider that it is the name that seems to preserve those essences and give them their lasting duration. The mind makes the connection between the loose parts of those complex ideas, and this union has no particular foundation in nature. So it would dissolve again if something did not, so to speak, hold it together and keep the parts from scattering.

So although it is the mind that makes the collection, it is the name that is, so to speak, the knot that ties them tightly together. What a vast variety of different ideas the word *triumphus* holds together and delivers to us as one species!

If this name had never been made, or had been entirely lost, we could no doubt have had descriptions of what went on in that ceremony. But still, I think, what holds those different parts together in the unity of one complex idea is that very word attached to it. Without it, the various parts would no more be thought to make one thing than any other show that had been put on only once and so never united into one complex idea under one name.

In mixed modes, then, the unity that any essence requires depends heavily on the mind, and the continuation and fixing of that unity depends heavily on the name in common use attached to it. I leave it to those who regard essences and species as real, established things in nature to consider how far this is so.

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3.5.11 Suitable to this, we find, that men speaking of mixed modes, seldom imagine or take any other for species of them, but such as are set out by name because they being of man's making only, in order to naming, no such species are taken notice of, or supposed to be, unless a name be joined to it, as the sign of a man's having combined into one idea several loose ones: and by that name giving a lasting union to the parts, which could otherwise cease to have any, as soon as the mind laid by that abstract idea, and ceased actually to think on it.

But when a name is once annexed to it, wherein the parts of that complex idea have a settled and permanent union; then is the essence as it were established, and the species looked on as complete. For to what purpose should the memory charge itself with such compositions, unless it were by abstraction to make them general? And to what purpose make them general, unless it were that they might have general names, for the convenience of discourse and communication?

Thus we see, that killing a man with a sword or a hatchet, are looked on as no distinct species of action: but if the point of the sword first enter the body, it passes for a distinct species, where it has a distinct name; as in England, in whose language it is called stabbing: but in another country, where it has not happened to be specified under a peculiar name, it passes not for a distinct species.

But in the species of corporeal substances, though it be the mind that makes the nominal essence; yet since those ideas which are combined in it are supposed to have a union in nature, whether the mind joins them or no, therefore those are looked on as distinct species, without any operation of the mind, either abstracting or giving a name to that complex idea.

3.5.12 *For the originals of mixed modes, we look no farther than the mind, which also shows them to be the workmanship of the understanding.*—Conformable also to what has been said concerning the essences of the species of mixed modes, that they are the creatures of the understanding rather than the works of nature: conformable, I say, to

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Consistent with this, we find that when people speak of mixed modes, they seldom imagine or accept any species of them except those marked out by a name. These species are of human making only, for the purpose of naming. So no such species is noticed or supposed to exist unless a name is attached to it, as the sign that someone has combined several loose ideas into one idea. By that name the parts are given a lasting union. Otherwise they would lose it as soon as the mind set that abstract idea aside and stopped actually thinking about it.

But once a name is attached to it, the parts of that complex idea have a settled and permanent union in that name. Then the essence is, so to speak, established, and the species regarded as complete. For why would the memory burden itself with such compositions, unless it were to make them general by abstraction? And why make them general, unless so that they might have general names, for the convenience of discourse and communication?

So we see that killing a man with a sword and killing him with a hatchet are not regarded as distinct species of action. But if the point of the sword enters the body first, it counts as a distinct species where it has a distinct name. So it does in England, whose language calls it stabbing. In another country, where it has not happened to be marked out by a name of its own, it does not count as a distinct species.

The species of corporeal substances are different. There too it is the mind that makes the nominal essence. But the ideas combined in it are supposed to have a union in nature, whether the mind joins them or not. So those species are regarded as distinct without any operation of the mind, either abstracting or giving a name to that complex idea.

For the origins of mixed modes we look no further than the mind, which also shows them to be the workmanship of the understanding.—We have said that the essences of the species of mixed modes are the creatures of the understanding rather than the works of nature. Consistent with this, I say, we find that their names lead our thoughts to the mind and no further.

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this, we find that their names lead our thoughts to the mind, and no farther.

When we speak of justice, or gratitude, we frame to ourselves no imagination of any thing existing, which we would conceive; but our thoughts terminate in the abstract ideas of those virtues, and look not farther: as they do, when we speak of a horse, or iron, whose specific ideas we consider not as barely in the mind, but as in things themselves, which afford the original patterns of those ideas. But in mixed modes, at least the most considerable parts of them, which are moral beings, we consider the original patterns as being in the mind; and to those we refer for the distinguishing of particular beings under names.

And hence I think it is, that these essences of the species of mixed modes are by a more particular name called notions, as, by a peculiar right, appertaining to the understanding.

3.5.13 *Their being made by the understanding without patterns, shows the reason why they are so compounded.*—Hence likewise we may learn, why the complex ideas of mixed modes are commonly more compounded and decompounded than those of natural substances. Because they being the workmanship of the understanding pursuing only its own ends, and the conveniency of expressing in short those ideas it would make known to another, it does with great liberty unite often in one abstract idea things that in their nature have no coherence; and so, under one term, bundle together a great variety of compounded and decompounded ideas.

Thus the name of procession, what a great mixture of independent ideas of persons, habits, tapers, orders, motions, sounds, does it contain in that complex one, which the mind of man has arbitrarily put together, to express by that one name! Whereas the complex ideas of the sorts of substances are usually made up of only a small number of simple ones; and in the species of animals, these two, viz. shape and voice, commonly make the whole nominal essence.

3.5.14 *Names of mixed modes stand always for their real essences.*—Another thing we may observe from what has been said is, that the names of mixed modes signify (when they have any determined signification) the real essences of their species.

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When we speak of justice or gratitude, we form no image of anything existing that we mean to conceive. Our thoughts end in the abstract ideas of those virtues and look no further. It is otherwise when we speak of a horse or iron. We consider their specific ideas not as merely in the mind but as in the things themselves, which supply the original patterns of those ideas. But in mixed modes —at least in the most important part of them, which are moral beings—we consider the original patterns as being in the mind. It is to those that we refer when we distinguish particular beings under names.

And this, I think, is why these essences of the species of mixed modes are given the more particular name of notions, as belonging by a special right to the understanding.

Their being made by the understanding without patterns shows why they are so compounded.—From this we can also learn why the complex ideas of mixed modes are commonly more compounded and decompounded than those of natural substances. They are the workmanship of the understanding, which pursues only its own ends and the convenience of expressing briefly the ideas it wants to make known to another. So it very freely unites in one abstract idea things that in their nature have no coherence. Under one term it bundles together a great variety of compounded and decompounded ideas.

Take the name procession: what a great mixture of independent ideas it contains in that one complex idea—persons, vestments, candles, ranks, motions, sounds—which the human mind has arbitrarily put together to express by that one name! The complex ideas of the sorts of substances, by contrast, are usually made up of only a small number of simple ones. In the species of animals, these two, namely shape and voice, commonly make up the whole nominal essence.

Names of mixed modes always stand for their real essences.—Another thing we may observe from what has been said is that the names of mixed modes signify (when they have any determinate meaning) the real essences of their species.

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For these abstract ideas being the workmanship of the mind, and not referred to the real existence of things, there is no supposition of any thing more signified by that name, but barely that complex idea the mind itself has formed, which is all it would have expressed by it: and is that on which all the properties of the species depend, and from which alone they all flow: and so in these the real and nominal essence is the same; which of what concernment it is to the certain knowledge of general truth, we shall see hereafter.

3.5.15 *Why their names are usually got before their ideas.*—This also may show us the reason why, for the most part, the names of mixed modes are got before the ideas they stand for are perfectly known. Because there being no species of these ordinarily taken notice of, but what have names; and those species, or rather their essences, being abstract complex ideas made arbitrarily by the mind; it is convenient, if not necessary, to know the names, before one endeavour to frame these complex ideas: unless a man will fill his head with a company of abstract complex ideas, which others having no names for, he has nothing to do with, but to lay by, and forget again.

I confess, that in the beginning of languages it was necessary to have the idea, before one gave it the name: and so it is still, where making a new complex idea, one also, by giving it a new name, makes a new word. But this concerns not languages made, which have generally pretty well provided for ideas, which men have frequent occasion to have and communicate: and in such, I ask, whether it be not the ordinary method, that children learn the names of mixed modes, before they have their ideas? What one of a thousand ever frames the abstract ideas of glory and ambition, before he has heard the names of them?

In simple ideas and substances I grant it is otherwise; which being such ideas as have a real existence and union in nature, the ideas and names are got one before the other, as it happens.

3.5.16 *Reason of my being so large on this subject.*—What has been said here of mixed modes is, with very little difference, applicable also to relations; which, since every man himself may observe, I

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These abstract ideas are the workmanship of the mind and are not referred to the real existence of things. So there is no supposition that the name signifies anything more than just the complex idea the mind itself has formed. That is all the mind meant to express by it. And it is that on which all the properties of the species depend and from which alone they all flow. So in these the real and the nominal essence are the same. How much this matters to certain knowledge of general truths we shall see later.

Why their names are usually acquired before their ideas.—This may also show us why, for the most part, the names of mixed modes are acquired before the ideas they stand for are fully known. No species of these is ordinarily noticed except those that have names. And those species, or rather their essences, are abstract complex ideas made arbitrarily by the mind. So it is convenient, if not necessary, to know the names before trying to form these complex ideas. Otherwise a person fills his head with a crowd of abstract complex ideas for which others have no names. He can do nothing with them except set them aside and forget them again.

I admit that at the beginning of languages it was necessary to have the idea before giving it a name. It is still so when someone makes a new complex idea and, by giving it a new name, makes a new word as well. But this does not concern languages already made. These have generally provided pretty well for the ideas people frequently need to have and communicate. And in such languages, I ask, is it not the usual course for children to learn the names of mixed modes before they have their ideas? Which one in a thousand ever forms the abstract ideas of glory and ambition before he has heard their names?

With simple ideas and substances, I grant, it is otherwise. These are ideas that have a real existence and union in nature, so the ideas and the names are acquired, one before the other, as it happens.

Why I have been so long on this subject.—What has been said here about mixed modes applies, with very little difference, to relations as well. Everyone can see this for himself, so I may spare myself

may spare myself the pains to enlarge on: especially, since what I have here said concerning words in this third book, will possibly be thought by some to be much more than what so slight a subject required.

I allow it might be brought into a narrower compass; but I was willing to stay my reader on an argument that appears to me new, and a little out of the way (I am sure it is one I thought not of when I began to write), that by searching it to the bottom, and turning it on every side, some part or other might meet with every one's thoughts, and give occasion to the most averse or negligent to reflect on a general miscarriage, which, though of great consequence, is little taken notice of.

When it is considered what a pudder is made about essences, and how much all sorts of knowledge, discourse, and conversation are pestered and disordered by the careless and confused use and application of words, it will perhaps be thought worth while thoroughly to lay it open. And I shall be pardoned if I have dwelt long on an argument which, I think, therefore needs to be inculcated; because the faults men are usually guilty of in this kind, are not only the greatest hinderances of true knowledge, but are so well thought of as to pass for it.

Men would often see what a small pittance of reason and truth, or possibly none at all, is mixed with those huffing opinions they are swelled with, if they would but look beyond fashionable sounds, and observe what ideas are, or are not comprehended under those words with which they are so armed at all points, and with which they so confidently lay about them.

I shall imagine I have done some service to truth, peace, and learning, if, by any enlargement on this subject, I can make men reflect on their own use of language; and give them reason to suspect, that since it is frequent for others, it may also be possible for them to have sometimes very good and approved words in their mouths and writings, with very uncertain, little, or no signification. And therefore it is not unreasonable for them to be wary herein themselves, and not to be unwilling to have them examined by others. With this design, therefore, I shall go on with what I have farther to say concerning this matter.

the trouble of enlarging on it. This is all the more true because some may think that what I have said here about words in this third book is much more than so slight a subject required.

I grant it could have been put more briefly. But I wanted to keep my reader on a subject that seems to me new and a little out of the way (I am sure it is one I did not think of when I began to write). I hoped that by searching it to the bottom and turning it over on every side, some part or other would meet everyone's thoughts. It might then prompt even the most reluctant or careless to reflect on a general failing which, though of great consequence, is little noticed.

Consider what a fuss is made about essences. Consider too how much every sort of knowledge, discourse, and conversation is plagued and thrown into disorder by the careless and confused use and application of words. It will perhaps then be thought worthwhile to expose the matter thoroughly. And I shall be forgiven for dwelling long on a subject which, I think, needs to be pressed home for this reason: the faults people usually commit here are the greatest obstacles to true knowledge, and yet they are so well thought of that they pass for knowledge.

People would often see how small a scrap of reason and truth is mixed in with the blustering opinions they are puffed up with—or possibly none at all. They need only look beyond fashionable sounds and observe what ideas are or are not contained in their words. They are armed at every point with these words, and they lay about them with them so confidently.

I shall think I have done some service to truth, peace, and learning if, by enlarging on this subject, I can make people reflect on their own use of language. I want to give them reason to suspect that it often happens to others to have very good and approved words in their mouths and writings with very uncertain, little, or no meaning. So it may sometimes happen to them too. It is therefore not unreasonable for them to be careful about this themselves, and not to be unwilling to have their words examined by others. With this aim, then, I shall go on with what more I have to say on this matter.

THE NAMES OF SUBSTANCES

Names of substances stand for sorts fixed by nominal essences, not by the real essences we do not know.

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3.6.1 *The common names of substances stand for sorts.*— The common names of substances, as well as other general terms, stand for sorts; which is nothing else but the being made signs of such complex ideas, wherein several particular substances do, or might agree, by virtue of which they are capable of being comprehended in one common conception, and signified by one name. I say, do or might agree: for though there be but one sun existing in the world, yet the idea of its being abstracted, so that more substances (if there were several) might each agree in it; it is as much a sort, as if there were as many suns as there are stars.

They want not their reasons who think there are, and that each fixed star would answer the idea the name sun stands for, to one who was placed in a due distance; which, by the way, may show us how much the sorts, or, if you please, genera and species of things (for those Latin terms signify to me no more than the English word sort) depend on such collections of ideas as men have made, and not on the real nature of things; since it is not impossible but that, in propriety of speech, that might be a sun to one, which is a star to another.

3.6.2 *The essence of each sort is the abstract idea.*—The measure and boundary of each sort, or species, whereby it is constituted that particular sort, and distinguished from others, is that we call its essence, which is nothing but that abstract idea to which the name is annexed; so that every thing contained in that idea is essential to that sort.

This, though it be all the essence of natural substances that we know, or by which we distinguish them into sorts; yet I call it by a peculiar name, the nominal essence, to distinguish it from the real constitution of substances, upon which depends this nominal essence, and all the properties of that sort; which, therefore, as has been said, may be called the real essence: *v. g.* the nominal essence of gold is that complex idea the word gold stands for, let it be, for instance, a body yellow, of a certain weight, malleable, fusible, and fixed. But the real essence

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The common names of substances stand for sorts.—The common names of substances, like other general terms, stand for sorts. That is nothing but their being made signs of complex ideas in which several particular substances agree or might agree. By virtue of those ideas they can be included in one common conception and signified by one name. I say "do or might agree." There is only one sun existing in the world. Yet its idea is abstracted so that more substances (if there were several) could each agree with it. So it is as much a sort as if there were as many suns as there are stars.

Some people think there are many suns, and that each fixed star would answer to the idea the name sun stands for, to someone placed at the right distance. They do not lack reasons. This, incidentally, may show us how much the sorts of things depend on the collections of ideas people have made, and not on the real nature of things. Call them, if you prefer, the genera and species of things; those Latin terms mean no more to me than the English word sort. It is not impossible that, speaking properly, what is a sun to one person might be a star to another.

The essence of each sort is the abstract idea.—Each sort or species has a measure and boundary that make it that particular sort and distinguish it from others. This is what we call its essence. It is nothing but the abstract idea to which the name is attached, so that everything contained in that idea is essential to that sort.

This is all the essence of natural substances that we know, or by which we distinguish them into sorts. Still, I call it by a special name, the nominal essence. I do so to distinguish it from the real constitution of substances, on which this nominal essence and all the properties of that sort depend. That constitution, therefore, as has been said, may be called the real essence. For example, the nominal essence of gold is the complex idea the word gold stands for—say, a body that is yellow, of a certain weight, malleable, fusible, and fixed. But the real essence is the constitution of the insensible

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is the constitution of the insensible parts of that body, on which those qualities and all the other properties of gold depend.

How far these two are different, though they are both called essence, is obvious at first sight to discover.

3.6.3 *The nominal and real essence different.*—For though perhaps voluntary motion, with sense and reason, joined to a body of a certain shape, be the complex idea to which I, and others, annex the name man, and so be the nominal essence of the species so called; yet nobody will say that that complex idea is the real essence and source of all those operations, which are to be found in any individual of that sort.

The foundation of all those qualities, which are the ingredients of our complex idea, is something quite different: and had we such a knowledge of that constitution of man, from which his faculties of moving, sensation, and reasoning, and other powers flow, and on which his so regular shape depends, as it is possible angels have, and it is certain his Maker has; we should have a quite other idea of his essence than what now is contained in our definition of that species, be it what it will: and our idea of any individual man would be as far different from what it is now.

as is his who knows all the springs and wheels and other contrivances within of the famous clock at Strasburg, from that which a gazing countryman has for it, who barely sees the motion of the hand, and hears the clock strike, and observes only some of the outward appearances.

3.6.4 *Nothing essential to individuals.*—That essence, in the ordinary use of the word, relates to sorts; and that it is considered in particular beings no farther than as they are ranked into sorts; appears from hence: that take but away the abstract ideas, by which we sort individuals, and rank them under common names, and then the thought of any thing essential to any of them instantly vanishes; we have no notion of the one without the other, which plainly shows their relation. It is necessary for me to be as I am: God and nature has made me so: but there is nothing I have so essential to me.

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parts of that body, on which those qualities and all the other properties of gold depend.

How different these two are, though both are called essence, is obvious at first sight.

The nominal and real essence are different.—Perhaps voluntary motion, with sense and reason, joined to a body of a certain shape, is the complex idea to which I and others attach the name man. If so, it is the nominal essence of the species so called. Yet nobody will say that this complex idea is the real essence and source of all the operations to be found in any individual of that sort.

The foundation of all the qualities that are the ingredients of our complex idea is something quite different. His faculties of moving, sensation, and reasoning and his other powers flow from a certain constitution of man, and his so regular shape depends on it. Angels possibly know that constitution, and his Maker certainly does. If we knew it as they do, we should have a quite different idea of his essence from the one now contained in our definition of that species, whatever that definition may be. And our idea of any individual man would be as different from what it is now

as the idea of someone who knows all the springs and wheels and other internal mechanisms of the famous clock at Strasbourg differs from that of a gaping countryman. The countryman merely sees the motion of the hand, hears the clock strike, and observes only some of its outward appearances.[14]

Nothing is essential to individuals.—In the ordinary use of the word, essence relates to sorts. It is considered in particular beings only insofar as they are ranked into sorts. This is clear from the following. Take away the abstract ideas by which we sort individuals and rank them under common names, and the thought of anything essential to any of them instantly vanishes. We have no notion of the one without the other, which plainly shows their relation. It is necessary for me to be as I am; God and nature have made me so. But nothing I have is essential to me.

14 The astronomical clock of Strasbourg Cathedral, completed in 1574, was one of the mechanical wonders of Europe.

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An accident, or disease, may very much alter my colour, or shape; a fever, or fall, may take away my reason or memory, or both, and an apoplexy leave neither sense nor understanding, no, nor life. Other creatures of my shape may be made with more and better, or fewer and worse faculties than I have; and others may have reason and sense in a shape and body very different from mine. None of these are essential to the one, or the other, or to any individual whatever, till the mind refers it to some sort or species of things; and then presently, according to the abstract idea of that sort, something is found essential.

Let any one examine his own thoughts, and he will find that as soon as he supposes or speaks of essential, the consideration of some species, or the complex idea, signified by some general name, comes into his mind; and it is in reference to that, that this or that quality is said to be essential. So that if it be asked, whether it be essential to me or any other particular corporeal being to have reason? I say no; no more than it is essential to this white thing I write on to have words in it.

But if that particular being be to be counted of the sort man, and to have the name man given it, then reason is essential to it, supposing reason to be a part of the complex idea the name man stands for; as it is essential to this thing I write on to contain words, if I will give it the name treatise, and rank it under that species.

So that essential, and not essential, relate only to our abstract ideas, and the names annexed to them: which amounts to no more but this, that whatever particular thing has not in it those qualities, which are contained in the abstract idea, which any general term stands for, cannot be ranked under that species, nor be called by that name, since that abstract idea is the very essence of that species.

3.6.5 Thus if the idea of body, with some people, be bare extension or space, then solidity is not essential to body: if others make the idea, to which they give the name body, to be solidity and extension, then solidity is essential to body. That, therefore, and that alone, is considered as essential, which makes a part of the complex idea the name of a sort stands for, without which no

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An accident or disease may greatly alter my color or shape. A fever or a fall may take away my reason or memory, or both, and a stroke may leave me neither sense nor understanding—no, nor life. Other creatures of my shape may be made with more and better, or fewer and worse, faculties than I have. Others may have reason and sense in a shape and body very different from mine. None of these is essential to the one or the other, or to any individual whatever, until the mind refers it to some sort or species of things. Then at once, according to the abstract idea of that sort, something is found to be essential.

Let anyone examine his own thoughts. He will find that as soon as he supposes or speaks of something essential, the thought of some species comes into his mind, or of the complex idea signified by some general name. It is with reference to that that this or that quality is said to be essential. So if I am asked whether it is essential to me, or to any other particular corporeal being, to have reason, I say no. It is no more essential than it is to this white thing I am writing on to have words on it.

But if that particular being is to be counted as of the sort man, and to be given the name man, then reason is essential to it, supposing reason is part of the complex idea the name man stands for. In the same way, it is essential to this thing I am writing on to contain words, if I give it the name treatise and rank it under that species.

So essential and not essential relate only to our abstract ideas and the names attached to them. That amounts to no more than this. Some general term stands for an abstract idea, which contains certain qualities. Any particular thing without those qualities cannot be ranked under that species or called by that name, since that abstract idea is the very essence of that species.

Thus if the idea of body, for some people, is bare extension or space, then solidity is not essential to body. If others take the idea they call body to consist of solidity and extension, then solidity is essential to body. So only what forms part of the complex idea that the name of a sort stands for is considered essential. Without it, no particular thing can be counted as of that sort or be entitled to that name.

particular thing can be reckoned of that sort, nor be entitled to that name.

Should there be found a parcel of matter that had all the other qualities that are in iron, but wanted obedience to the loadstone; and would neither be drawn by it, nor receive direction from it; would any one question whether it wanted any thing essential? It would be absurd to ask, whether a thing really existing wanted any thing essential to it. Or could it be demanded, whether this made an essential or specific difference or no; since we have no other measure essential or specific, but our abstract ideas? And to talk of specific differences in nature, without reference to general ideas and names, is to talk unintelligibly.

Suppose a lump of matter were found that had all the other qualities of iron but lacked obedience to the lodestone: it would neither be drawn by it nor take direction from it. Would anyone ask whether it lacked anything essential? It would be absurd to ask whether a thing really existing lacked anything essential to it. Or could it be asked whether this made an essential or specific difference? We have no other measure of essential or specific than our abstract ideas. And to talk of specific differences in nature without reference to general ideas and names is to talk unintelligibly.

For I would ask any one, what is sufficient to make an essential difference in nature, between any two particular beings, without any regard had to some abstract idea, which is looked upon as the essence and standard of a species? All such patterns and standards being quite laid aside, particular beings, considered barely in themselves, will be found to have all their qualities equally essential; and every thing, in each individual, will be essential to it, or, which is more, nothing at all. For though it may be reasonable to ask, whether obeying the magnet be essential to iron?

For I would ask anyone what is enough to make an essential difference in nature between any two particular beings, without regard to some abstract idea that is taken as the essence and standard of a species. Set all such patterns and standards entirely aside. Then particular beings, considered merely in themselves, will be found to have all their qualities equally essential. Everything in each individual will be essential to it—or rather, nothing at all will be. For it may be reasonable to ask whether obeying the magnet is essential to iron.

yet, I think, it is very improper and insignificant to ask, whether it be essential to the particular parcel of matter I cut my pen with, without considering it under the name iron, or as being of a certain species? And if, as has been said, our abstract ideas, which have names annexed to them, are the boundaries of species, nothing can be essential but what is contained in those ideas.

But I think it very improper and meaningless to ask whether it is essential to the particular lump of matter I cut my pen with, if I do not consider it under the name iron or as being of a certain species. And if, as has been said, our abstract ideas that have names attached to them are the boundaries of species, nothing can be essential except what is contained in those ideas.

3.6.6 It is true, I have often mentioned a real essence, distinct in substances from those abstract ideas of them, which I call their nominal essence. By this real essence I mean that real constitution of any thing, which is the foundation of all those properties that are combined in, and are constantly found to co-exist with the nominal essence; and that particular constitution which every thing has within itself, without any relation to any thing without it. But essence, even in this sense, relates to a sort, and supposes a species: for being that real constitution, on which the properties depend, it necessarily supposes a sort

It is true that I have often mentioned a real essence in substances, distinct from the abstract ideas of them that I call their nominal essence. By this real essence I mean the real constitution of any thing that is the foundation of all the properties combined in the nominal essence and constantly found to coexist with it. It is the particular constitution which every thing has within itself, without any relation to anything outside it. But essence, even in this sense, relates to a sort and presupposes a species. It is the real constitution on which the properties depend. So it necessarily

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of things, properties belonging only to species, and not to individuals; v.

g. supposing the nominal essence of gold to be a body of such a peculiar colour and weight, with malleability and fusibility, the real essence is that constitution of the parts of matter, on which these qualities and their union depend; and is also the foundation of its solubility in aqua regia and other properties accompanying that complex idea. Here are essences and properties, but all upon supposition of a sort, or general abstract idea, which is considered as immutable: but there is no individual parcel of matter, to which any of these qualities are so annexed, as to be essential to it, or inseparable from it.

That which is essential belongs to it as a condition, whereby it is of this or that sort: but take away the consideration of its being ranked under the name of some abstract idea; and then there is nothing necessary to it, nothing inseparable from it. Indeed, as to the real essences of substances, we only suppose their being, without precisely knowing what they are: but that which annexes them still to the species, is the nominal essence, of which they are the supposed foundation and cause.

3.6.7 *The nominal essence bounds the species.*—The next thing to be considered is, by which of those essences it is that substances are determined into sorts, or species; and that, it is evident, is by the nominal essence. For it is that alone that the name, which is the mark of the sort, signifies. It is impossible, therefore, that any thing should determine the sorts of things which we rank under general names, but that idea which that name is designed as a mark for; which is that, as has been shown, which we call nominal essence. Why do we say, this is a horse, and that a mule; this is an animal, that an herb?

How comes any particular thing to be of this or that sort, but because it has that nominal essence, or, which is all one, agrees to that abstract idea that name is annexed to? And I desire any one but to reflect on his own thoughts, when he hears or speaks any of those, or other names of substances, to know what sort of essences they stand for.

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presupposes a sort of things, since properties belong only to species and not to individuals. For example, suppose the nominal essence of gold is a body of a certain distinctive color and weight, with malleability and fusibility. Then the real essence is the constitution of the parts of matter on which these qualities and their union depend. It is also the foundation of gold's solubility in aqua regia and of the other properties that accompany that complex idea. Here there are essences and properties, but all on the supposition of a sort, or general abstract idea, which is considered unchangeable. But there is no individual lump of matter to which any of these qualities is so attached as to be essential to it or inseparable from it.

What is essential belongs to it as a condition by which it is of this or that sort. But stop considering it as ranked under the name of some abstract idea, and then nothing is necessary to it, nothing inseparable from it. Indeed, as for the real essences of substances, we only suppose that they exist, without knowing exactly what they are. What always connects them to the species is the nominal essence, and they are the supposed foundation and cause of that nominal essence.

The nominal essence bounds the species.—The next thing to consider is which of these essences sorts substances into sorts or species. It is evidently the nominal essence. For the name is the mark of the sort, and the nominal essence alone is what the name signifies. So nothing can determine the sorts of things we rank under general names except the idea that the name is designed to mark. As has been shown, this is what we call the nominal essence. Why do we say this is a horse and that a mule, this is an animal and that a plant?

How does any particular thing come to be of this or that sort, except because it has that nominal essence? Or, what comes to the same thing, because it agrees with the abstract idea that name is attached to? When anyone hears or speaks any of these or other names of substances, I ask him only to reflect on his own thoughts, and so find out what sort of essences they stand for.

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3.6.8 And that the species of things to us are nothing but the ranking them under distinct names, according to the complex ideas in us, and not according to precise, distinct, real essences in them, is plain from hence, that we find many of the individuals that are ranked into one sort, called by one common name, and so received as being of one species, have yet qualities depending on their real constitutions, as far different one from another, as from others, from which they are accounted to differ specifically.

This, as it is easy to be observed by all who have to do with natural bodies; so chemists especially are often, by sad experience, convinced of it, when they, sometimes in vain, seek for the same qualities in one parcel of sulphur, antimony, or vitriol, which they have found in others. For though they are bodies of the same species, having the same nominal essence, under the same name; yet do they often, upon severe ways of examination, betray qualities so different one from another, as to frustrate the expectation and labour of very wary chemists.

But if things were distinguished into species, according to their real essences, it would be as impossible to find different properties in any two individual substances of the same species, as it is to find different properties in two circles, or two equilateral triangles. That is properly the essence to us, which determines every particular to this or that *classis;* or, which is the same thing, to this or that general name: and what can that be else, but that abstract idea, to which that name is annexed? and so has, in truth, a reference, not so much to the being of particular things, as to their general denominations.

3.6.9 *Not the real essence, which we know not.*—Nor indeed can we rank and sort things, and consequently (which is the end of sorting) denominate them by their real essences, because we know them not. Our faculties carry us no farther toward the knowledge and distinction of substances, than a collection of those sensible ideas which we observe in them; which, however made with the greatest diligence and exactness we are capable of, yet it is more remote from the true internal constitution from which those qualities flow, than, as I said, a countryman's idea is from the inward contrivance of that famous

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The species of things, to us, are nothing but our ranking them under distinct names according to the complex ideas in us, and not according to precise, distinct, real essences in them. This is plain from the following. Many individuals are ranked in one sort, called by one common name, and so accepted as being of one species. Yet they still have qualities, depending on their real constitutions, as different from one another as from things considered to differ from them in species.

This is easy for anyone who deals with natural bodies to observe. But chemists especially are often convinced of it by bitter experience. They look, sometimes in vain, for the same qualities in one sample of sulfur, antimony, or vitriol that they have found in others. For these are bodies of the same species, having the same nominal essence under the same name. Yet under rigorous testing they often reveal qualities so different from one another as to defeat the expectations and labor of very careful chemists.

But suppose things were divided into species according to their real essences. Then it would be as impossible to find different properties in any two individual substances of the same species as it is to find different properties in two circles or two equilateral triangles. For us, the essence proper is what places each particular in this or that *classis*—or, what is the same thing, under this or that general name. And what can that be but the abstract idea to which that name is attached? So it really refers not so much to the being of particular things as to their general names.

Not the real essence, which we do not know.—Nor indeed can we rank and sort things by their real essences, because we do not know them. Consequently we cannot name them by those essences either, and naming is the purpose of sorting. Our faculties take us no further toward the knowledge and distinction of substances than a collection of the sensible ideas we observe in them. We may make this collection with all the care and exactness we are capable of. Even so, it is further from the true internal constitution from which those qualities flow than, as I said, a countryman's idea is from the inner mechanism of that famous clock

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clock at Strasburgh, whereof he only sees the outward figure and motions.

There is not so contemptible a plant or animal, that does not confound the most enlarged understanding. Though the familiar use of things about us take off our wonder, yet it cures not our ignorance. When we come to examine the stones we tread on, or the iron we daily handle, we presently find we know not their make, and can give no reason of the different qualities we find in them. It is evident the internal constitution, whereon their properties depend, is unknown to us. For to go no farther than the grossest and most obvious we can imagine among them, what is that texture of parts, that real essence, that makes lead and antimony fusible; wood and stones not?

What makes lead and iron malleable; antimony and stones not? And yet how infinitely these come short of the fine contrivances, and unconceivable real essences of plants or animals, every one knows. The workmanship of the all-wise and powerful God, in the great fabric of the universe, and every part thereof, farther exceeds the capacity and comprehension of the most inquisitive and intelligent man, than the best contrivance of the most ingenious man doth the conceptions of the most ignorant of rational creatures. Therefore we in vain pretend to range things into sorts, and dispose them into certain classes, under names, by their real essences, that are so far from our discovery or comprehension.

A blind man may as soon sort things by their colours, and he that has lost his smell as well distinguish a lily and a rose by their odours, as by those internal constitutions which he knows not. He that thinks he can distinguish sheep and goats by their real essences, that are unknown to him, may be pleased to try his skill in those species, called cassiowary and querechinchio; and by their internal real essences determine the boundaries of those species, without knowing the complex idea of sensible qualities, that each of those names stand for, in the countries where those animals are to be found.

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at Strasbourg, of which he sees only the outward shape and motions.

There is no plant or animal so insignificant that it does not baffle the broadest understanding. Our familiarity with the things around us takes away our wonder, but it does not cure our ignorance. When we come to examine the stones we walk on, or the iron we handle every day, we immediately find that we do not know how they are made. We can give no reason for the different qualities we find in them. It is evident that the internal constitution on which their properties depend is unknown to us. To go no further than the crudest and most obvious qualities we can think of among them: what is that texture of parts, that real essence, that makes lead and antimony fusible, and wood and stones not?

What makes lead and iron malleable, and antimony and stones not? And yet everyone knows how infinitely these fall short of the fine contrivances and inconceivable real essences of plants or animals. Consider the workmanship of the all-wise and all-powerful God in the great fabric of the universe and every part of it. It exceeds the capacity and comprehension of the most inquisitive and intelligent man by more than the best contrivance of the most ingenious man exceeds the conceptions of the most ignorant of rational creatures. So it is in vain that we claim to arrange things into sorts and distribute them into definite classes under names by their real essences, which are so far beyond our discovery or comprehension.

A blind man could just as soon sort things by their colors, and a man who has lost his sense of smell could just as well distinguish a lily from a rose by their scents, as anyone could sort things by internal constitutions he does not know. Anyone who thinks he can distinguish sheep and goats by their real essences, which are unknown to him, is welcome to try his skill on the species called cassowary and querechinchio. Let him determine the boundaries of those species by their internal real essences, without knowing the complex idea of sensible qualities that each of those names stands for in the countries where those animals are found.[15]

15 The querechinchio is an animal named in a travel account and not securely identified.

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3.6.10 *Not substantial forms, which we know less.*—Those, therefore, who have been taught, that the several species of substances had their distinct, internal, substantial forms; and that it was those forms which made the distinction of substances into their true species and genera; were led yet farther out of the way, by having their minds set upon fruitless inquiries after substantial forms, wholly unintelligible, and whereof we have scarce so much as any obscure or confused conception in general.

Not substantial forms, which we know even less.—Some have been taught that the various species of substances had their own distinct, internal, substantial forms, and that these forms divided substances into their true species and genera. These people were led still further astray by setting their minds on fruitless inquiries after substantial forms. These forms are wholly unintelligible, and we have hardly even an obscure or confused general conception of them.

SPIRITS AND THE SCALE OF BEINGS

Our ideas of spirits come from reflection, and species of creatures probably ascend above us by gentle degrees.

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3.6.11 *That the nominal essence is that whereby we distinguish species, farther evident from spirits.*—That our ranking and distinguishing natural substances into species, consists in the nominal essences the mind makes, and not in the real essences to be found in the things themselves, is farther evident from our ideas of spirits. For the mind getting, only by reflecting on its own operations, those simple ideas which it attributes to spirits, it hath, or can have no other notion of spirit, but by attributing all those operations, it finds in itself, to a sort of beings, without consideration of matter.

And even the most advanced notion we have of God is but attributing the same simple ideas, which we have got from reflection on what we find in ourselves, and which we conceive to have more perfection in them, than would be in their absence; attributing, I say, those simple ideas to him in an unlimited degree. Thus having got, from reflecting on ourselves, the idea of existence, knowledge, power, and pleasure, each of which we find it better to have than to want; and the more we have of each the better; joining all these together, with infinity to each of them, we have the complex idea of an eternal, omniscient, omnipotent, infinitely wise and happy Being.

And though we are told, that there are different species of angels; yet we know not how to frame distinct specific ideas of them: not out of any conceit that the existence of more species than one of spirits is impossible, but because, having

That the nominal essence is what we distinguish species by is further evident from spirits.—We rank and distinguish natural substances into species by the nominal essences the mind makes, not by real essences found in the things themselves. This is further evident from our ideas of spirits. The mind gets the simple ideas it attributes to spirits only by reflecting on its own operations. So it has, and can have, no other notion of spirit than by attributing all the operations it finds in itself to a sort of beings, without regard to matter.

Even the most advanced notion we have of God works the same way. We have got certain simple ideas from reflecting on what we find in ourselves, and we conceive them to carry more perfection with them than their absence would. Our notion of God is only these simple ideas attributed to him, I say, in an unlimited degree. Thus from reflection on ourselves we have got the ideas of existence, knowledge, power, and pleasure. We find it better to have each of them than to lack it, and the more of each the better. Joining them all together, with infinity added to each, we have the complex idea of an eternal, omniscient, omnipotent, infinitely wise and happy Being.

We are told that there are different species of angels, yet we do not know how to form distinct specific ideas of them. This is not from any belief that it is impossible for more than one species of spirits to exist. It is because we have no more simple

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no more simple ideas (nor being able to frame more) applicable to such beings, but only those few taken from ourselves, and from the actions of our own minds in thinking, and being delighted, and moving several parts of our bodies, we can no otherwise distinguish in our conceptions the several species of spirits one from another, but by attributing those operations and powers, we find in ourselves, to them in a higher or lower degree; and so have no very distinct specific ideas of spirits, except only of God, to whom we attribute both duration, and all those other ideas with infinity; to the other spirits, with limitation.

Nor as I humbly conceive do we, between God and them in our ideas, put any difference by any number of simple ideas, which we have of one and not of the other; but only that of infinity. All the particular ideas of existence, knowledge, will, power, and motion, &c.

being ideas derived from the operations of our minds, we attribute all of them to all sorts of spirits, with the difference only of degrees to the utmost we can imagine, even infinity, when we would frame, as well as we can, an idea of the first being; who yet, it is certain, is infinitely more remote, in the real excellency of his nature, from the highest and most perfect of all created beings, than the greatest man, nay purest seraph, is from the most contemptible part of matter; and consequently must infinitely exceed what our narrow understandings can conceive of him.

3.6.12 *Whereof there are probably numberless species.*—It is not impossible to conceive, nor repugnant to reason, that there may be many species of spirits, as much separated and diversified one from another by distinct properties whereof we have no ideas, as the species of sensible things are distinguished one from another by qualities which we know and observe in them. That there should be more species of intelligent creatures above us, than there are of sensible and material below us, is probable to me from hence; that in all the visible corporeal world, we see no chasms or gaps.

All quite down from us the descent is by easy steps, and a continued series of things, that in each remove differ very little one from the other. There are fishes that have wings, and are not strangers to the airy region; and there are some

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ideas applicable to such beings (nor can we form any more) than the few taken from ourselves. These come from the actions of our own minds in thinking, being delighted, and moving various parts of our bodies. So we can distinguish the various species of spirits from one another in our conceptions only by attributing to them, in a higher or lower degree, the operations and powers we find in ourselves. And so we have no very distinct specific ideas of spirits, except only of God. To him we attribute duration and all those other ideas with infinity; to the other spirits, with limitation.

Nor, as I humbly suppose, do our ideas distinguish God from them by any set of simple ideas that we have of one and not of the other. They distinguish them only by infinity. All the particular ideas of existence, knowledge, will, power, motion, and so on,

are ideas derived from the operations of our minds, and we attribute all of them to all sorts of spirits. They differ only in degree, up to the utmost we can imagine—even infinity—when we try to frame, as well as we can, an idea of the first being. Yet it is certain that he is infinitely further removed, in the real excellence of his nature, from the highest and most perfect of all created beings than the greatest man, or even the purest seraph, is from the most contemptible bit of matter. Consequently he must infinitely exceed what our narrow understandings can conceive of him.

Of which there are probably countless species.—It is not impossible to conceive, nor contrary to reason, that there may be many species of spirits. They may be as separated and as varied from one another by distinct properties of which we have no ideas as the species of sensible things are by qualities we know and observe in them. That there should be more species of intelligent creatures above us than there are of sensible and material ones below us seems probable to me for this reason: in all the visible corporeal world we see no chasms or gaps.

All the way down from us, the descent is by easy steps, a continuous series of things that differ very little from one another at each remove. There are fish that have wings and are no strangers to the air. And there are some birds that live in the water,

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birds that are inhabitants of the water, whose blood is cold as fishes, and their flesh so like in taste, that the scrupulous are allowed them on fish-days.

There are animals so near of kin both to birds and beasts, that they are in the middle between both: amphibious animals link the terrestrial and aquatic together; seals live at land and sea, and porpoises have the warm blood and entrails of a hog, not to mention what is confidently reported of mermaids or sea-men.

There are some brutes, that seem to have as much knowledge and reason as some that are called men; and the animal and vegetable kingdoms are so nearly joined, that if you will take the lowest of one, and the highest of the other, there will scarce be perceived any great difference between them; and so on, till we come to the lowest and the most inorganical parts of matter, we shall find every where, that the several species are linked together, and differ but in almost insensible degrees.

And when we consider the infinite power and wisdom of the Maker, we have reason to think, that it is suitable to the magnificent harmony of the universe, and the great design and infinite goodness of the Architect, that the species of creatures should also, by gentle degrees, ascend upward from us toward his infinite perfection, as we see they gradually descend from us downward: which, if it be probable, we have reason then to be persuaded, that there are far more species of creatures above us than there are beneath: we being, in degrees of perfection, much more remote from the infinite being of God, than we are from the lowest state of being, and that which approaches nearest to nothing.

And yet of all those distinct species, for the reasons above said, we have no clear distinct ideas.

3.6.13 *The nominal essence that of the species, proved from water and ice.*—But to return to the species of corporeal substances. If I should ask any one, whether ice and water were two distinct species of things, I doubt not but I should be answered in the affirmative: and it cannot be denied, but he

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whose blood is as cold as a fish's and whose flesh tastes so much like fish that the scrupulous are allowed to eat them on fish-days.[16]

There are animals so closely related to both birds and beasts that they stand midway between the two. Amphibious animals link the land-dwellers and the water-dwellers together. Seals live on land and at sea, and porpoises have the warm blood and entrails of a hog, not to mention what is confidently reported of mermaids or sea-men.

There are some brutes that seem to have as much knowledge and reason as some that are called men. And the animal and vegetable kingdoms are so closely joined that if you take the lowest of the one and the highest of the other, you will hardly see any great difference between them. And so on down, until we come to the lowest and most inorganic parts of matter: everywhere we will find that the several species are linked together and differ only by almost imperceptible degrees.

And when we consider the infinite power and wisdom of the Maker, we have reason to think that it suits the magnificent harmony of the universe, and the great design and infinite goodness of the Architect, that the species of creatures should also rise by gentle degrees upward from us toward his infinite perfection, just as we see them gradually descend downward from us. If that is probable, then we have reason to be persuaded that there are far more species of creatures above us than there are beneath us. For in degrees of perfection we are much further from the infinite being of God than we are from the lowest state of being, the one that comes nearest to nothing.

And yet, for the reasons given above, we have no clear, distinct ideas of any of those distinct species.

The nominal essence is that of the species, as shown from water and ice.—But to return to the species of corporeal substances. If I asked anyone whether ice and water were two distinct species of things, I have no doubt I would be told yes. And it cannot be denied that someone who says they are two distinct species is right.

16 Fish-days: days of fasting on which the Church forbade meat but allowed fish.

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that says they are two distinct species is in the right.

But if an Englishman, bred in Jamaica, who perhaps had never seen or heard of ice, coming into England in the winter, find the water he put in his basin at night, in a great part frozen in the morning, and not knowing any peculiar name it had, should call it hardened water; I ask, whether this would not be a new species to him different from water? And, I think, it would be answered here, it would not be to him a new species, no more than congealed jelly, when it is cold, is a distinct species from the same jelly fluid and warm; or than liquid gold in the furnace is a distinct species from hard gold in the hands of a workman.

And if this be so, it is plain, that our distinct species are nothing but distinct complex ideas, with distinct names annexed to them. It is true, every substance that exists, has its peculiar constitution, whereon depend those sensible qualities and powers we observe in it; but the ranking of things into species, which is nothing but sorting them under several titles, is done by us according to the ideas we have of them: which, though sufficient to distinguish them by names, so that we may be able to discourse of them, when we have them not present before us; yet if we suppose it to be done by their real internal constitutions, and that things existing are distinguished by nature into species, by real essences, according as we distinguish them into species by names, we shall be liable to great mistakes.

3.6.14 *Difficulties against a certain number of real essences.* —To distinguish substantial beings into species, according to the usual supposition, that there are certain precise essences or forms of things, whereby all the individuals existing are by nature distinguished into species, these things are necessary.

3.6.15 First, To be assured that nature, in the production of things, always designs them to partake of certain regulated established essences, which are to be the models of all things to be produced. This, in that crude sense it is usually proposed, would need some better explication, before it can be wholly assented to.

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But suppose an Englishman brought up in Jamaica, who had perhaps never seen or heard of ice, comes to England in the winter. He finds the water he put in his basin at night largely frozen in the morning and, not knowing any special name for it, calls it hardened water. I ask: would this not be a new species to him, different from water? And I think the answer here would be that it would not be a new species to him. It would be no more a new species than jelly set by the cold is a distinct species from the same jelly when warm and fluid, or than liquid gold in the furnace is a distinct species from hard gold in a workman's hands.

And if this is so, it is plain that our distinct species are nothing but distinct complex ideas with distinct names attached to them. It is true that every substance that exists has its own particular constitution, on which the sensible qualities and powers we observe in it depend. But the ranking of things into species, which is nothing but sorting them under various titles, is done by us according to the ideas we have of them. Those ideas are enough to distinguish things by names, so that we can talk about them when they are not present before us. But we will be liable to great mistakes if we suppose that the sorting is done by their real internal constitutions, and that existing things are divided by nature into species by real essences in the same way that we divide them into species by names.

Difficulties against a fixed number of real essences.— The usual supposition is that there are certain precise essences or forms of things, by which nature divides all existing individuals into species. To distinguish substantial beings into species on that supposition, the following things are necessary.

First, we would need to be sure that nature, in producing things, always intends them to share in certain regulated, established essences, which are to be the models of everything produced. In the crude sense in which this is usually put forward, it would need some better explanation before it could be wholly assented to.

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Secondly, It would be necessary to know whether nature always attains that essence it designs in the production of things. The irregular and monstrous births, that in divers sorts of animals have been observed, will always give us reason to doubt of one or both of these.

3.6.17 Thirdly, It ought to be determined, whether those we call monsters be really a distinct species, according to the scholastic notion of the word species; since it is certain that every thing that exists has its particular constitution: and yet we find that some of these monstrous productions have few or none of those qualities, which are supposed to result from, and accompany the essence of that species, from whence they derive their originals, and to which, by their descent, they seem to belong.

3.6.18 *Our nominal essences of substances not perfect collections of properties.*—Fourthly, The real essences of those things, which we distinguish into species, and as so distinguished we name, ought to be known; *i. e.* we ought to have ideas of them. But since we are ignorant in these four points, the supposed real essences of things stand us not in stead for the distinguishing substances into species.

3.6.19 Fifthly, The only imaginable help in this case would be, that having framed perfect complex ideas of the properties of things, flowing from their different real essences, we should thereby distinguish them into species. But neither can this be done; for being ignorant of the real essence itself, it is impossible to know all those properties that flow from it, and are so annexed to it, that any one of them being away, we may certainly conclude, that that essence is not there, and so the thing is not of that species.

We can never know what are the precise number of properties depending on the real essence of gold, any one of which failing, the real essence of gold, and consequently gold, would not be there, unless we knew the real essence of gold itself, and by that determined that species. By the word gold here, I must be understood to design a particular piece of matter; *v. g.* the last guinea that was coined. For if it should stand here in its ordinary signification for that complex idea, which I or any one else calls gold; i.

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Second, we would need to know whether nature always achieves the essence it intends in producing things. The irregular and malformed births that have been observed in various sorts of animals will always give us reason to doubt one or both of these points.

Third, it ought to be settled whether such malformed births are really a distinct species, according to the scholastic notion of the word species. For it is certain that everything that exists has its particular constitution. And yet we find that some of these malformed births have few or none of the qualities that are supposed to result from and accompany the essence of the species they come from, and to which they seem to belong by descent.

Our nominal essences of substances are not perfect collections of properties.—Fourth, the real essences of the things we distinguish into species, and name as so distinguished, would have to be known; that is, we would have to have ideas of them. But since we are ignorant on these four points, the supposed real essences of things are of no use to us in distinguishing substances into species.

Fifth, the only help imaginable in this case would be this: having framed perfect complex ideas of the properties of things that flow from their different real essences, we could use them to distinguish things into species. But this cannot be done either. We are ignorant of the real essence itself, so it is impossible to know all the properties that flow from it and are tied to it so closely that, if any one of them is missing, we may conclude with certainty that the essence is not there, and so the thing is not of that species.

Take the real essence of gold. Some properties depend on it in such a way that if any one of them failed, the real essence of gold, and consequently gold, would not be there. We can never know the precise number of those properties unless we know the real essence of gold itself and fix that species by it. By the word gold here I must be understood to mean a particular piece of matter, for example the last guinea that was minted. For suppose it stood here in its ordinary meaning, for the

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e. for the nominal essence of gold, it would be jargon: so hard is it to show the various meaning and imperfection of words, when we have nothing else but words to do it by.

3.6.20 By all which it is clear, that our distinguishing substances into species by names, is not at all founded on their real essences; nor can we pretend to range and determine them exactly into species, according to the internal essential differences.

3.6.21 *But such a collection as our name stands for.*—But since, as has been remarked, we have need of general words, though we know not the real essences of things; all we can do is to collect such a number of simple ideas, as by examination we find to be united together in things existing, and thereof to make one complex idea: which, though it be not the real essence of any substance that exists, is yet the specific essence to which our name belongs, and is convertible with it; by which we may at least try the truth of these nominal essences.

For example, there be that say, that the essence of body is extension: if it be so, we can never mistake in putting the essence of any thing for the thing itself. Let us then in discourse put extension for body; and when we would say that body moves, let us say that extension moves, and see how ill it will look. He that should say that one extension by impulse moves another extension, would, by the bare expression, sufficiently show the absurdity of such a notion.

The essence of any thing, in respect of us, is the whole complex idea, comprehended and marked by that name; and in substances, besides the several distinct simple ideas that make them up, the confused one of substance, or of an unknown support and cause of their union, is always a part: and therefore the essence of body is not bare extension, but an extended solid thing; and so to say an extended solid thing moves, or impels another, is all one, and as intelligible as to say, body moves or impels. Likewise to say, that a rational animal is capable of conversation, is all one as to say a man.

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complex idea that I or anyone else calls gold, that is,[17]

for the nominal essence of gold. Then it would be jargon. That is how hard it is to show the various meanings and the imperfection of words when we have nothing but words to do it with.

From all this it is clear that our distinguishing substances into species by names is not founded on their real essences at all. Nor can we claim to arrange and sort them exactly into species according to internal essential differences.

But such a collection as our name stands for.—As has been remarked, we need general words even though we do not know the real essences of things. So all we can do is collect as many simple ideas as we find, on examination, to be united together in existing things, and make one complex idea out of them. This is not the real essence of any existing substance. Yet it is the specific essence to which our name belongs, and it is convertible with that name. By this we can at least test the truth of these nominal essences.

For example, some say that the essence of body is extension. If that is so, we can never go wrong in putting the essence of anything for the thing itself. So in discourse let us put extension for body. When we want to say that body moves, let us say that extension moves, and see how bad it looks. Anyone who said that one extension moves another extension by impulse would show the absurdity of such a notion by the mere expression.

The essence of anything, as far as we are concerned, is the whole complex idea that its name covers and marks. In substances, besides the various distinct simple ideas that make them up, the confused idea of substance, that is, of an unknown support and cause of their union, is always a part. So the essence of body is not bare extension but an extended solid thing. To say that an extended solid thing moves or impels another is therefore the same as saying that body moves or impels, and just as intelligible. Likewise, to say that a rational

17 The guinea was an English gold coin, first struck in 1663.

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	animal is capable of conversation is the same as saying that a man is.
But no one will say, that rationality is capable of conversation, because it makes not the whole essence to which we give the name man.	But no one will say that rationality is capable of conversation, because rationality does not make up the whole essence to which we give the name man.

WHAT COUNTS AS A MAN

Hairy creatures, drills and malformed births show that the boundaries of the species man are set by our ideas.

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3.6.22 *Our abstract ideas are to us the measures of species; instance in that of man.*—There are creatures in the world that have shapes like ours, but are hairy, and want language and reason. There are *[intellectually disabled people]* among us that have perfectly our shape, but want reason, and some of them language too. There are creatures, it is said ("sit fides penes auctorem," but there appears no contradiction that there should be such) that, with language and reason, and a shape in other things agreeing with ours, have hairy tails; others where the males have no beards, and others where the females have. If it be asked whether these be all men or no, all of human species?	*Our abstract ideas are for us the measures of species: the example of man.*—There are creatures in the world that have shapes like ours but are hairy and lack language and reason. There are intellectually disabled people among us who have exactly our shape but lack reason, and some of them lack language too. There are creatures, it is said, that have language and reason and a shape agreeing with ours in other respects, but have hairy tails. There are others where the males have no beards, and others where the females do. ("Sit fides penes auctorem": the teller must vouch for it, though there seems to be no contradiction in there being such creatures.) Suppose it is asked whether these are all men or not, whether they are all of the human species.
it is plain, the question refers only to the nominal essence: for those of them to whom the definition of the word man, or the complex idea signified by that name, agrees, are men, and the other not. But if the inquiry be made concerning the supposed real essence, and whether the internal constitution and frame of these several creatures be specifically different, it is wholly impossible for us to answer, no part of that going into our specific idea; only we have reason to think, that where the faculties or outward frame so much differs, the internal constitution is not exactly the same.	It is plain that the question concerns only the nominal essence. Those creatures that fit the definition of the word man, or the complex idea signified by that name, are men, and the others are not. But the inquiry may instead be about the supposed real essence, and whether the internal constitution and structure of these various creatures differ in species. Then it is wholly impossible for us to answer, since no part of that goes into our specific idea. We have reason only to think that where the faculties or outward structure differ so much, the internal constitution is not exactly the same.
But what difference in the internal real constitution makes a specific difference, it is in vain to inquire; whilst our measures of species be, as they are, only our abstract ideas, which we know; and not that internal constitution, which makes no part of them. Shall the difference of hair only on the skin, be a mark of a different internal specific constitution between a changeling and a drill, when they agree in shape,	But our measures of species are only our abstract ideas, which we know, and not that internal constitution, which makes no part of them. As long as that is so, it is pointless to ask what difference in the internal real constitution makes a difference of species. Take a severely intellectually disabled child and a drill, which agree in shape and in the lack of reason and speech. Shall a mere difference

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and want of reason and speech? And shall not the want of reason and speech be a sign to us of different real constitutions and species between a changeling and a reasonable man?

And so of the rest, if we pretend that the distinction of species or sorts is fixedly established by the real frame and secret constitutions of things.

3.6.23 *Species not distinguished by generation.*—Nor let any one say, that the power of propagation in animals by the mixture of male and female, and in plants by seeds, keeps the supposed real species distinct and entire. For granting this to be true, it would help us in the distinction of the species of things no farther than the tribes of animals and vegetables. What must we do for the rest?

But in those too it is not sufficient: for if history lie not, women have conceived by drills; and what real species, by that measure, such a production will be in nature, will be a new question: and we have reason to think this is not impossible, since mules and jumarts, the one from the mixture of an ass and a mare, and the other from the mixture of a bull and a mare, are so frequent in the world. I once saw a creature that was the issue of a cat and a rat, and had the plain marks of both about it; wherein nature appeared to have followed the pattern of neither sort alone, but to have jumbled them both together.

To which, he that shall add the monstrous productions that are so frequently to be met with in nature, will find it hard even in the race of animals, to determine by the pedigree of what species every animal's issue is: and be at a loss about the real essence, which he thinks certainly conveyed by generation, and has alone a right to the specific name. But farther, if the species of animals and plants are to be distinguished only by propagation, must I go to the Indies to see the sire and dam of the one, and the plant from which the seed was gathered that produced the other, to know whether this be a tiger or that tea?

3.6.24 *Not by substantial forms.*—Upon the whole matter, it is evident, that it is their own collections of

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of hair on the skin be a mark of a different internal specific constitution between them? And shall the lack of reason and speech not be a sign to us of different real constitutions and species between such a child and a reasonable man?[18]

And the same goes for the rest, if we claim that the distinction of species or sorts is fixed by the real structure and secret constitutions of things.

Species are not distinguished by generation.—Nor let anyone say that the power of propagation keeps the supposed real species distinct and intact, in animals by the union of male and female and in plants by seeds. For even granting this is true, it would help us in distinguishing the species of things no further than the tribes of animals and plants. What are we to do for the rest?

But even with animals and plants it is not enough. If the histories do not lie, women have conceived by drills, and it would be a new question what real species such an offspring would be in nature, by that measure. We have reason to think this is not impossible, since mules and jumarts are so common in the world: mules come from the mating of a donkey and a mare, and jumarts from that of a bull and a mare. I once saw a creature that was the offspring of a cat and a rat and plainly bore the marks of both. In it nature seemed to have followed the pattern of neither sort alone but to have jumbled the two together.[19]

Anyone who adds to this the malformed births so often met with in nature will find it hard, even among animals, to determine by pedigree what species every animal's offspring belongs to. He will be at a loss about the real essence, which he thinks is certainly passed on by generation and which alone has a right to the specific name. What is more, if the species of animals and plants are to be distinguished only by propagation, must I go to the Indies to see the sire and dam of the one, and the plant from which the seed was gathered that produced the other, in order to know whether this is a tiger or that is tea?

Not by substantial forms.—On the whole, then, it is evident that men make their own collections of

18 Locke's word is "changeling" (in folklore, a child left by fairies in place of a stolen one). A "drill" is his name for a large ape or baboon.

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sensible qualities, that men make the essences of their several sorts of substances; and that their real internal structures are not considered by the greatest part of men, in the sorting of them.

Much less were any substantial forms ever thought on by any, but those who have in this one part of the world learned the language of the schools: and yet those ignorant men, who pretend not any insight into the real essences, nor trouble themselves about substantial forms, but are content with knowing things one from another by their sensible qualities, are often better acquainted with their differences, can more nicely distinguish them from their uses, and better know what they may expect from each, than those learned quick-sighted men, who look so deep into them, and talk so confidently of something more hidden and essential.

3.6.25 *The specific essences are made by the mind.*—But supposing that the real essences of substances were discoverable by those that would severely apply themselves to that inquiry, yet we could not reasonably think, that the ranking of things under general names was regulated by those internal real constitutions, or any thing else but their obvious appearances: since languages, in all countries, have been established long before sciences.

So that they have not been philosophers, or logicians, or such who have troubled themselves about forms and essences, that have made the general names that are in use among the several nations of men: but those more or less comprehensive terms have for the most part, in all languages, received their birth and signification from ignorant and illiterate people, who sorted and denominated things by those sensible qualities they found in them; thereby to signify them, when absent, to others, whether they had an occasion to mention a sort or a particular thing.

3.6.26 *Therefore very various and uncertain.*—Since then it is evident, that we sort and name substances by their nominal, and not by their real essences; the next thing to be considered is, how and by whom these essences come to be made. As to the latter, it is evident they are made by the mind, and not by

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sensible qualities into the essences of their various sorts of substances. Most men pay no attention to the real internal structures of those substances in sorting them.

Much less did anyone ever think of substantial forms, except those in this one part of the world who have learned the language of the schools. Then there are the ignorant men who claim no insight into real essences and do not trouble themselves about substantial forms, but are content to tell things apart by their sensible qualities. These men are often better acquainted with the differences between things than those learned, sharp-sighted men who look so deep into them and talk so confidently of something more hidden and essential. They can distinguish things more finely by their uses and know better what to expect from each.

The specific essences are made by the mind.—But suppose the real essences of substances could be discovered by those who applied themselves rigorously to that inquiry. We still could not reasonably think that the ranking of things under general names was governed by those internal real constitutions, or by anything but their obvious appearances. For in every country, languages were established long before sciences.

So it was not philosophers, or logicians, or people who troubled themselves about forms and essences, who made the general names in use among the various nations of mankind. For the most part, in all languages, those more or less comprehensive terms got their birth and meaning from ignorant and unlettered people. These people sorted and named things by the sensible qualities they found in them, so as to signify them to others when they were absent, whether they had occasion to mention a sort or a particular thing.

Therefore very various and uncertain.—It is evident, then, that we sort and name substances by their nominal essences and not by their real ones. The next thing to consider is how, and by whom, these essences come to be made. As to who makes them, it is evident that they are made by the mind and

19 The jumart, a supposed cross of bull and horse, was widely believed in; no such hybrid exists.

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nature: for were they nature's workmanship, they could not be so various and different in several men, as experience tells us they are. For if we will examine it, we shall not find the nominal essence of any one species of substances in all men the same: no, not of that, which of all others we are the most intimately acquainted with.

It could not possibly be, that the abstract idea to which the name man is given, should be different in several men, if it were of nature's making; and that to one it should be "animal rationale," and to another "animal implume bipes latis unguibus." He that annexes the name man to a complex idea made up of sense and spontaneous motion, joined to a body of such a shape, has thereby one essence of the species man; and he that, upon further examination, adds rationality, has another essence of the species he calls man: by which means the same individual will be a true man to the one, which is not so to the other.

I think, there is scarce any one will allow this upright figure, so well known, to be the essential difference of the species man; and yet how far men determine of the sorts of animals rather by their shape than descent, is very visible: since it has been more than once debated, whether several human fœtuses should be preserved or received to baptism or no, only because of the difference of their outward configuration from the ordinary make of children, without knowing whether they were not as capable of reason as infants cast in another mould: some whereof, though of an approved shape, are never capable of as much appearance of reason all their lives as is to be found in an ape or an elephant, and never give any signs of being actuated by a rational soul.

Whereby it is evident, that the outward figure, which only was found wanting, and not the faculty of reason, which nobody could know would be wanting in its due season, was made essential to the human species. The learned divine or lawyer must, on such occasions, renounce his sacred definition of "animal rationale," and substitute some other essence of the human species. Monsieur Menage furnishes us with an example worth the taking notice of on

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not by nature. If they were nature's workmanship, they could not vary as much from one person to another as experience tells us they do. If we examine it, we will not find the nominal essence of any one species of substances to be the same in all men. It differs even for the species we are more intimately acquainted with than any other.

If it were of nature's making, the abstract idea to which the name man is given could not possibly differ from one person to another, so that for one it is "animal rationale" and for another "animal implume bipes latis unguibus." Someone who attaches the name man to a complex idea made up of sense and spontaneous motion, joined to a body of a certain shape, has one essence of the species man. Someone who, on further examination, adds rationality has another essence of the species he calls man. By this means the same individual will be a true man to the one and not to the other.[20]

I think hardly anyone will accept this upright figure, familiar as it is, as the essential difference of the species man. And yet it is very evident how far people decide the sorts of animals by their shape rather than their descent. More than once it has been debated whether certain human fetuses should be kept alive, or received for baptism, or not. The only reason was that their outward form differed from the ordinary build of children, and no one knew whether they were less capable of reason than infants cast in another mold. Some of those infants, though of an approved shape, never show in all their lives as much appearance of reason as is found in an ape or an elephant, and never give any sign of being moved by a rational soul.

From this it is evident that the outward figure, which was the only thing found wanting, was made essential to the human species. The faculty of reason was not, and nobody could know whether it would be wanting when its time came. On such occasions the learned theologian or lawyer must give up his sacred definition of "animal rationale" and substitute some other essence of the human species. Monsieur Ménage gives us an example worth noticing here: "When the abbot of St.

20 "Rational animal"; and "featherless two-legged animal with broad nails," the Platonic definition as supposedly amended after Diogenes produced a plucked chicken.

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this occasion: "When the abbot of St Martin (says he) was born, he had so little of the figure of a man, that it bespake him rather a monster. It was for some time under deliberation, whether he should be baptised or no.

However, he was baptised and declared a man provisionally [till time should show what he would prove.] Nature had moulded him so untowardly, that he was called all his life the Abbot Malotru, *i. e.* ill-shaped. He was of Caen." *Menagiana*, 278/430. This child, we see, was very near being excluded out of the species of man, barely by his shape. He escaped very narrowly as he was, and it is certain a figure a little more oddly turned had cast him, and he had been executed as a thing not to be allowed to pass for a man.

And yet there can be no reason given, why, if the lineaments of his face had been a little altered, a rational soul could not have been lodged in him; why a visage somewhat longer, or a nose flatter, or a wider mouth, could not have consisted, as well as the rest of his ill figure, with such a soul, such parts, as made him, disfigured as he was, capable to be a dignitary in the church.

3.6.27 Wherein, then, would I gladly know, consist the precise and unmovable boundaries of that species? It is plain, if we examine, there is no such thing made by nature, and established by her among men. The real essence of that, or any other sort of substances, it is evident we know not; and therefore are so undetermined in our nominal essences, which we make ourselves, that if several men were to be asked concerning some oddly-shaped fetus, as soon as born, whether it were a man or no, it is past doubt, one should meet with different answers: which could not happen, if the nominal essences, whereby we limit and distinguish the species of substances, were not made by man with some liberty, but were exactly copied from precise boundaries set by nature, whereby it distinguished all substances into certain species.

Who would undertake to resolve what species that monster was of, which is mentioned by Licetus, lib. i. c. 3, with a man's head and hog's

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Martin was born," he says, "he had so little of the figure of a man that he looked like a malformed birth rather than a child. For some time it was debated whether he should be baptized or not.[21]

However, he was baptized and declared a man provisionally [until time should show what he would turn out to be]. Nature had molded him so awkwardly that all his life he was called the Abbot Malotru, that is, ill-shaped. He was from Caen." *Menagiana*, 278/430. This child, we see, came very close to being excluded from the human species merely because of his shape. He escaped very narrowly as it was. A figure a little more oddly formed would certainly have sunk him, and he would have been put to death as a thing that could not be allowed to pass for a man.

And yet no reason can be given why a rational soul could not have been lodged in him if the features of his face had been a little altered. He was disfigured as he was, and yet his soul and abilities made him fit to be a dignitary in the church. Why could a somewhat longer face, or a flatter nose, or a wider mouth not have been consistent with such a soul and such abilities, just as the rest of his ill figure was?

Where, then, I would gladly know, do the precise and immovable boundaries of that species lie? It is plain, if we examine it, that nature has made no such thing and established none among men. It is evident that we do not know the real essence of that or of any other sort of substance. So we are very unsettled in our nominal essences, which we make ourselves. If several people were asked, as soon as some oddly shaped fetus was born, whether it was a man or not, we would no doubt get different answers. This could not happen if our nominal essences, by which we limit and distinguish the species of substances, were exact copies of precise boundaries set by nature, by which she divided all substances into certain species. It happens because men make these nominal essences with some freedom.

Licetus mentions a malformed birth with a man's head and a hog's body (book 1, chapter 3). Who would undertake to settle what species it belonged

21 Gilles Ménage (1613–1692), French scholar. The *Menagiana* (1693) is a collection of his table talk.

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body? or those other, which to the bodies of men had the heads of beasts, as dogs, horses, &c.? If any of these creatures had lived, and could have spoke, it would have increased the difficulty. Had the upper part to the middle been of human shape, and all below swine; had it been murder to destroy it? Or must the bishop have been consulted, whether it were man enough to be admitted to the font or no? as, I have been told, it happened in France some years since, in somewhat a like case.

So uncertain are the boundaries of species of animals to us, who have no other measures than the complex ideas of our own collecting: and so far are we from certainly knowing what a man is; though, perhaps, it will be judged great ignorance to make any doubt about it. And yet, I think, I may say, that the certain boundaries of that species are so far from being determined, and the precise number of simple ideas, which make the nominal essence, so far from being settled and perfectly known, that very material doubts may still arise about it.

And I imagine none of the definitions of the word man, which we yet have, nor descriptions of that sort of animal, are so perfect and exact, as to satisfy a considerate inquisitive person; much less to obtain a general consent, and to be that which men would every where stick by, in the decision of cases, and determining of life and death, baptism or no baptism, in productions that might happen.

3.6.28 *But not so arbitrary as mixed modes.*—But though these nominal essences of substances are made by the mind, they are not yet made so arbitrarily as those of mixed modes. To the making of any nominal essence, it is necessary, first, that the ideas whereof it consists have such a union as to make but one idea, how compounded soever; secondly, that the particular idea so united be exactly the same, neither more nor less. For if two abstract complex ideas differ either in number or sorts of their component parts, they make two different, and not one and the same essence.

In the first of these, the mind, in making its complex ideas of substances, only follows nature,

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to? Or those others which had the heads of beasts, such as dogs and horses, on human bodies? If any of these creatures had lived and been able to speak, the difficulty would have been greater. Suppose the upper part, down to the middle, had been of human shape, and everything below it swine. Would it have been murder to destroy it? Or would the bishop have had to be consulted about whether it was man enough to be admitted to the font? I have been told that this happened in France some years ago, in a somewhat similar case.[22]

That is how uncertain the boundaries of the species of animals are to us, since we have no other measures than the complex ideas we ourselves collect. And that is how far we are from knowing with certainty what a man is, though perhaps it will be judged great ignorance to have any doubt about it. Yet I think I may say that the definite boundaries of that species are far from being determined. The precise number of simple ideas that make up its nominal essence is far from being settled and perfectly known. So very serious doubts may still arise about it.

And I imagine that none of the definitions of the word man we have so far, nor any descriptions of that sort of animal, are perfect and exact enough to satisfy a thoughtful, inquiring person. Much less are they exact enough to win general agreement and to be what people everywhere would hold to in deciding cases about births that might occur, and in settling life or death, baptism or no baptism.

But not so arbitrary as mixed modes.—Although these nominal essences of substances are made by the mind, they are not made as arbitrarily as those of mixed modes. To make any nominal essence, two things are necessary. First, the ideas it consists of must be united so as to make only one idea, however compounded. Second, the particular idea so united must be exactly the same, neither more nor less. For if two abstract complex ideas differ either in the number or in the sorts of their component parts, they make two different essences, not one and the same.

In the first of these, the mind, in making its complex ideas of substances, simply follows nature. It puts none together that are not supposed to be

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and puts none together which are not supposed to have a union in nature. Nobody joins the voice of a sheep with the shape of a horse, nor the colour of lead with the weight and fixedness of gold, to be the complex ideas of any real substances; unless he has a mind to fill his head with chimeras, and his discourse with unintelligible words. Men observing certain qualities always joined and existing together, therein copied nature; and of ideas so united, made their complex ones of substances.

For though men may make what complex ideas they please, and give what names to them they will; yet if they will be understood, when they speak of things really existing, they must in some degree conform their ideas to the things they would speak of; or else men's language will be like that of Babel; and every man's words being intelligible only to himself, would no longer serve to conversation, and the ordinary affairs of life, if the ideas they stand for be not some way answering the common appearances and agreement of substances, as they really exist.

3.6.29 *Though very imperfect.*—Secondly, though the mind of man, in making its complex ideas of substances, never puts any together that do not really or are not supposed to coexist; and so it truly borrows that union from nature; yet the number it combines depends upon the various care, industry, or fancy of him that makes it. Men generally content themselves with some few sensible obvious qualities; and often, if not always, leave out others as material, and as firmly united, as those that they take.

Of sensible substances there are two sorts; one of organized bodies, which are propagated by seed; and in these, the shape is that which to us is the leading quality and most characteristical part that determines the species: and therefore in vegetables and animals, an extended solid substance of such a certain figure usually serves the turn.

For however some men seem to prize their definition of "animal rationale," yet should there a creature be found, that had language and reason, but partook not of the usual shape of a man, I

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united in nature. Nobody joins the voice of a sheep to the shape of a horse, or the color of lead to the weight and fixedness of gold, to make the complex ideas of any real substances, unless he wants to fill his head with chimeras and his discourse with unintelligible words. Men observed certain qualities always joined and existing together, and in this they copied nature: they made their complex ideas of substances out of ideas so united.

People may make whatever complex ideas they please and give them whatever names they like. But if they want to be understood when they speak of things that really exist, they must to some degree conform their ideas to the things they mean to speak of. Otherwise their language will be like that of Babel. If the ideas their words stand for do not somehow answer to the common appearances and agreement of substances as they really exist, every man's words will be intelligible only to himself. They will no longer serve for conversation and the ordinary affairs of life.

Though very imperfect.—Second, the human mind, in making its complex ideas of substances, never puts any ideas together that do not really coexist or are not supposed to, and so it truly borrows that union from nature. Yet how many ideas it combines depends on the care, industry, or fancy of the person who makes it, and these vary. People generally content themselves with a few obvious sensible qualities. Often, if not always, they leave out others that are as important, and as firmly united, as the ones they take.

There are two sorts of sensible substances. One sort is organized bodies, which are propagated by seed. In these, the shape is for us the leading quality and the most characteristic part, the one that determines the species. So in plants and animals an extended solid substance of a certain figure usually serves the purpose.

Some people seem to prize their definition, "animal rationale." Yet if a creature were found that had language and reason but did not share the usual shape of a man, I believe it would hardly pass for a

22 Fortunio Liceti (1577–1657), Italian physician, author of a treatise on malformed births, *De monstrorum causis, natura et differentiis* (1616).

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believe it would hardly pass for a man, how much soever it were "animal rationale." And if Balaam's ass had, all his life, discoursed as rationally as he did once with his master, I doubt yet whether any one would have thought him worthy the name man, or allowed him to be of the same species with himself. As in vegetables and animals it is the shape, so in most other bodies, not propagated by seed, it is the colour we most fix on, and are most led by.

Thus, where we find the colour of gold, we are apt to imagine all the other qualities, comprehended in our complex idea, to be there also: and we commonly take these two obvious qualities, viz. shape and colour, for so presumptive ideas of several species, that in a good picture we readily say this is a lion and that a rose; this is a gold, and that a silver goblet, only by the different figures and colours represented to the eye by the pencil.

3.6.30 *Which yet serve for common converse.*—But though this serves well enough for gross and confused conceptions, and inaccurate ways of talking and thinking; yet men are far enough from having agreed on the precise number of simple ideas, or qualities, belonging to any sort of things, signified by its name. Nor is it a wonder, since it requires much time, pains, and skill, strict inquiry, and long examination, to find out what and how many those simple ideas are, which are constantly and inseparably united in nature, and are always to be found together in the same subject.

Most men, wanting either time, inclination, or industry enough for this, even to some tolerable degree, content themselves with some few obvious and outward appearances of things, thereby readily to distinguish and sort them for the common affairs of life; and so, without farther examination, give them names, or take up the names already in use; which, though in common conversation they pass well enough for the signs of some few obvious qualities coexisting, are yet far enough from comprehending, in a settled signification, a precise number of simple ideas; much less all those which are united in nature.

He that shall consider, after so much stir about genus and species, and such a deal of talk of specific differences, how few words we have yet

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man, however much it was an "animal rationale." And if Balaam's ass had talked all his life as rationally as he did once with his master, I still doubt whether anyone would have thought him worthy of the name man, or allowed him to be of the same species as himself. In plants and animals it is the shape we fix on. In most other bodies, which are not propagated by seed, it is the color we mostly fix on and are most guided by.[23]

Thus where we find the color of gold, we are apt to imagine that all the other qualities in our complex idea are there too. And we commonly take these two obvious qualities, namely shape and color, as such strong presumptive ideas of various species that in a good picture we readily say, this is a lion and that a rose; this is a gold goblet and that a silver one. We say it merely from the different figures and colors that the brush presents to the eye.

Which still serve for ordinary conversation.—This serves well enough for rough and confused conceptions and for loose ways of talking and thinking. But people are still far from having agreed on the precise number of simple ideas, or qualities, that belong to any sort of thing signified by its name. Nor is that surprising. It takes much time, effort, and skill, strict inquiry and long examination, to find out which simple ideas, and how many, are constantly and inseparably united in nature and always to be found together in the same subject.

Most people lack the time, the inclination, or the industry for this, even to a tolerable degree. They content themselves with a few obvious outward appearances of things, so as to distinguish and sort them readily for the ordinary affairs of life. And so, without further examination, they give them names or take up the names already in use. In ordinary conversation these names pass well enough as signs of a few obvious coexisting qualities. But they are far from covering, with a settled meaning, a precise number of simple ideas, much less all those that are united in nature.

There has been so much fuss about genus and species, and so much talk of specific differences. Anyone who considers how few words we yet have

23 Balaam's ass rebukes its master in Numbers 22:28–30.

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settled definitions of, may with reason imagine that those forms, which there hath been so much noise made about, are only chimeras, which give us no light into the specific natures of things.

And he that shall consider how far the names of substances are from having significations, wherein all who use them do agree, will have reason to conclude, that though the nominal essences of substances are all supposed to be copied from nature, yet they are all, or most of them very imperfect; since the composition of those complex ideas are, in several men, very different; and therefore that these boundaries of species are as men, and not as nature makes them, if at least there are in nature any such prefixed bounds. It is true that many particular substances are so made by nature, that they have agreement and likeness one with another, and so afford a foundation of being ranked into sorts.

But the sorting of things by us, or the making of determinate species, being in order to naming and comprehending them under general terms; I cannot see how it can be properly said, that nature sets the boundaries of the species of things: or if it be so, our boundaries of species are not exactly conformable to those in nature. For we having need of general names for present use, stay not for a perfect discovery of all those qualities which would best show us their most material differences and agreements; but we ourselves divide them, by certain obvious appearances, into species, that we may the easier under general names communicate our thoughts about them.

For having no other knowledge of any substance, but of the simple ideas that are united in it; and observing several particular things to agree with others in several of those simple ideas; we make that collection our specific idea, and give it a general name; that in recording our own thoughts, and in our discourse with others, we may in one short word design all the individuals that agree in that complex idea, without enumerating the simple ideas that make it up; and so not waste our time and breath in tedious descriptions; which we see they are fain to do, who would discourse of any new sort of things they have not yet a name for.

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settled definitions for may reasonably suppose that those forms about which so much noise has been made are only chimeras, which give us no light into the specific natures of things.

And anyone who considers how far the names of substances are from having meanings that everyone who uses them agrees on will have reason to conclude something further. The nominal essences of substances are all supposed to be copied from nature, yet all or most of them are very imperfect, since the composition of those complex ideas differs greatly from person to person. So these boundaries of species are as men make them, not as nature does, if indeed there are any such preset bounds in nature at all. It is true that nature has made many particular substances so that they agree with and resemble one another, and so provide a basis for ranking them into sorts.

But we sort things, or make determinate species, in order to name them and comprehend them under general terms. So I cannot see how it can properly be said that nature sets the boundaries of the species of things. Or if it does, our boundaries of species do not exactly match those in nature. We need general names for present use, so we do not wait for a complete discovery of all the qualities that would best show us their most important differences and agreements. Instead we ourselves divide things into species by certain obvious appearances, so that we can more easily communicate our thoughts about them under general names.

We have no knowledge of any substance except the simple ideas that are united in it. We observe various particular things agreeing with others in several of those simple ideas. So we make that collection our specific idea and give it a general name. That way, in recording our own thoughts and in our discourse with others, we can designate in one short word all the individuals that agree in that complex idea, without listing the simple ideas that make it up. And so we do not waste our time and breath on tedious descriptions, as we see those people forced to do who want to talk about some new sort of thing they do not yet have a name for.

3.6.31

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Essences of species under the same name very different.—But however these species of substances pass well enough in ordinary conversation, it is plain that this complex idea, wherein they observe several individuals to agree, is by different men made very differently; by some more, and others less accurately. In some, this complex idea contains a greater, and in others a smaller number of qualities; and so is apparently such as the mind makes it.

The yellow shining colour makes gold to children; others add weight, malleableness, and fusibility; and others yet other qualities, which they find joined with that yellow colour, as constantly as its weight and fusibility; for in all these and the like qualities, one has as good a right to be put into the complex idea of that substance wherein they are all joined, as another. And therefore different men leaving out or putting in several simple ideas, which others do not, according to their various examination, skill, or observation of that subject, have different essences of gold; which must therefore be of their own, and not of nature's making.

3.6.32 *The more general our ideas are, the more incomplete and partial they are.*—If the number of simple ideas, that made the nominal essence of the lowest species, or first sorting of individuals, depends on the mind of man variously collecting them, it is much more evident that they do so in the more comprehensive classes, which by the masters of logic are called genera. These are complex ideas designedly imperfect: and it is visible at first sight, that several of those qualities that are to be found in the things themselves are purposely left out of generical ideas.

For as the mind, to make general ideas comprehending several particulars, leaves out those of time, and place, and such other, that make them incommunicable to more than one individual; so to make other yet more general ideas, that may comprehend different sorts, it leaves out those qualities that distinguish them, and puts into its new collection only such ideas as are common to several sorts. The same convenience that made men express several parcels of yellow matter coming from Guinea and Peru under one name, sets them also upon making of one name that may comprehend both

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The essences of species under the same name are very different.—However well these species of substances serve in ordinary conversation, it is plain that different people make this complex idea very differently. This is the idea in which they observe several individuals to agree, and some make it more accurately and others less. In some it contains a greater number of qualities, in others a smaller. So it is evidently whatever the mind makes it.

For children, the yellow shining color makes gold. Others add weight, malleability, and fusibility. Others add still other qualities, which they find joined to that yellow color as constantly as its weight and fusibility. For among all these and similar qualities, any one has as good a right as any other to be put into the complex idea of the substance in which they are all joined. So different people leave out or put in various simple ideas that others do not, depending on how far they have examined the subject, their skill, and what they have observed of it. In this way they have different essences of gold, which must therefore be of their own making, not nature's.

The more general our ideas are, the more incomplete and partial they are.—The number of simple ideas that make up the nominal essence of the lowest species, or first sorting of individuals, depends on the human mind collecting them in various ways. If that is so, it is even more evident that the same holds for the more comprehensive classes, which the masters of logic call genera. These are complex ideas made imperfect by design. It is visible at first sight that many of the qualities found in the things themselves are purposely left out of generic ideas.

The mind makes general ideas covering several particulars by leaving out time and place, and anything else that would make them incommunicable to more than one individual. In the same way, to make still more general ideas that can cover different sorts, it leaves out the qualities that distinguish those sorts, and puts into its new collection only ideas that are common to several sorts. The same convenience that led people to express various lots of yellow matter coming from Guinea and Peru under one name also sets them to making

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gold and silver, and some other bodies of different sorts.

This is done by leaving out those qualities which are peculiar to each sort, and retaining a complex idea made up of those that are common to them all; to which the name metal being annexed, there is a genus constituted; the essence whereof, being that abstract idea containing only malleableness and fusibility, with certain degrees of weight and fixedness, wherein some bodies of several kinds agree, leaves out the colour, and other qualities peculiar to gold and silver, and the other sorts comprehended under the name metal.

Whereby it is plain, that men follow not exactly the patterns set them by nature, when they make their general ideas of substances; since there is no body to be found, which has barely malleableness and fusibility in it, without other qualities as inseparable as those. But men in making their general ideas, seeing more the convenience of language and quick despatch, by short and comprehensive signs, than the true and precise nature of things as they exist, have, in the framing their abstract ideas, chiefly pursued that end which was to be furnished with store of general and variously comprehensive names.

So that in this whole business of genera and species, the genus, or more comprehensive, is but a partial conception of what is in the species, and the species but a partial idea of what is to be found in each individual. If therefore any one will think that a man, and a horse, and an animal, and a plant, &c. are distinguished by real essences made by nature, he must think nature to be very liberal of these real essences, making one for body, another for an animal, and another for a horse; and all these essences liberally bestowed upon Bucephalus.

But if we would rightly consider what is done, in all these genera and species, or sorts, we should find that there is no new thing made, but only more or less comprehensive signs, whereby we may be enabled to express, in a few syllables, great numbers of particular things, as they agree in more or less general conceptions, which we have framed to that purpose. In all which we may observe, that the more general term is always the name of a less complex idea; and that each genus

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one name that can cover gold and silver and some other bodies of different sorts.

This is done by leaving out the qualities peculiar to each sort and keeping a complex idea made up of those common to them all. When the name metal is attached to this idea, a genus is constituted. Its essence is that abstract idea, which contains only malleability and fusibility with certain degrees of weight and fixedness, in which some bodies of various kinds agree. It leaves out the color and the other qualities peculiar to gold and silver and the other sorts included under the name metal.

From this it is plain that people do not exactly follow the patterns nature sets them when they make their general ideas of substances. For no body is to be found that has just malleability and fusibility in it, without other qualities as inseparable as those. But in making their general ideas, people have kept their eye more on the convenience of language and on quick dispatch by short and comprehensive signs than on the true and precise nature of things as they exist. So in framing their abstract ideas, their chief aim has been to supply themselves with a stock of general names that cover more or fewer things.

So in this whole business of genera and species, the genus, or more comprehensive class, is only a partial conception of what is in the species. The species, in turn, is only a partial idea of what is to be found in each individual. So if anyone thinks that a man, a horse, an animal, a plant, and so on are distinguished by real essences made by nature, he must think nature very generous with these real essences. She must make one for body, another for an animal, and another for a horse, and bestow all these essences generously on Bucephalus.

But if we rightly considered what is done in all these genera and species, or sorts, we would find that nothing new is made. There are only more or less comprehensive signs, by which we can express in a few syllables great numbers of particular things, as they agree in more or less general conceptions that we have framed for that purpose. In all of this we may observe that the more general term is always the name of a less complex idea, and that each genus is only a partial conception of the species included under it.

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is but a partial conception of the species comprehended under it.

So that if these abstract general ideas be thought to be complete, it can only be in respect of a certain established relation between them and certain names, which are made use of to signify them; and not in respect of any thing existing, as made by nature.

3.6.33 *This all accommodated to the end of speech.*—This is adjusted to the true end of speech, which is to be the easiest and shortest way of communicating our notions. For thus he, that would discourse of things as they agreed in the complex ideas of extension and solidity, needed but use the word body to denote all such.

He that to these would join others, signified by the words life, sense, and spontaneous motion, needed but use the word animal, to signify all which partook of those ideas: and he that had made a complex idea of a body, with life, sense, and motion, with the faculty of reasoning, and a certain shape joined to it, needed but use the short monosyllable man to express all particulars that correspond to that complex idea. This is the proper business of genus and species; and this men do, without any consideration of real essences, or substantial forms, which come not within the reach of our knowledge, when we think of those things; nor within the signification of our words, when we discourse with others.

3.6.34 *Instance in casuaries.*—Were I to talk with any one of a sort of birds I lately saw in St James's Park, about three or four feet high, with a covering of something between feathers and hair, of a dark brown colour, without wings, but in the place thereof two or three little branches coming down like sprigs of Spanish broom, long great legs, with feet only of three claws, and without a tail; I must make this description of it, and so may make others understand me:

but when I am told that the name of it is cassowary, I may then use that word to stand in discourse for all my complex idea mentioned in that description; though by that word, which is now become a specific name, I know no more of the real essence or constitution of that sort of animals than I did before: and knew probably as much of the nature of that species of birds, before

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So if these abstract general ideas are thought to be complete, it can only be with respect to a certain established relation between them and certain names used to signify them. It cannot be with respect to anything existing as nature made it.

All this suited to the purpose of speech.—This is adjusted to the true end of speech, which is to be the easiest and shortest way of communicating our notions. In this way, someone who wanted to talk about things insofar as they agreed in the complex ideas of extension and solidity needed only to use the word body to denote them all.

Someone who wanted to join other ideas to these, signified by the words life, sense, and spontaneous motion, needed only to use the word animal to signify everything that shared those ideas. And someone who had made a complex idea of a body with life, sense, and motion, together with the faculty of reasoning and a certain shape, needed only to use the short monosyllable man to express all the particulars that correspond to that complex idea. This is the proper business of genus and species. And people do this without any consideration of real essences or substantial forms. These do not come within the reach of our knowledge when we think of those things, nor within the meaning of our words when we talk with others.

Instance in cassowaries.—Suppose I were to talk with someone about a sort of bird I recently saw in St James's Park. It stood about three or four feet high, with a covering of something between feathers and hair, dark brown in color. It had no wings, but in their place two or three little branches hanging down like sprigs of Spanish broom. It had long, large legs, feet with only three claws, and no tail. I would have to give this description of it, and in that way I might make others understand me.

But when I am told that its name is cassowary, I may then use that word in discourse to stand for the whole complex idea given in that description. Yet by that word, which has now become a specific name, I know no more of the real essence or constitution of that sort of animal than I did before. And before I learned the name I probably knew as much about the nature of that species of

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I learned the name, as many Englishmen do of swans, or herons, which are specific names, very well known, of sorts of birds common in England.

3.6.35 *Men determine the sorts.*—From what has been said, it is evident that men make sorts of things. For it being different essences alone that make different species, it is plain that they who make those abstract ideas, which are the nominal essences, do thereby make the species, or sort. Should there be a body found, having all the other qualities of gold, except malleableness, it would no doubt be made a question whether it were gold or no, *i. e.* whether it were of that species.

This could be determined only by that abstract idea to which every one annexed the name gold; so that it would be true gold to him, and belong to that species, who included not malleableness in his nominal essence, signified by the sound gold; and on the other side it would not be true gold, or of that species, to him who included malleableness in his specific idea. And who, I pray, is it that makes these diverse species even under one and the same name, but men that make two different abstract ideas, consisting not exactly of the same collection of qualities?

Nor is it a mere supposition to imagine that a body may exist, wherein the other obvious qualities of gold may be without malleableness; since it is certain, that gold itself will be sometimes so eager (as artists call it) that it will as little endure the hammer as glass itself.

What we have said of the putting in or leaving malleableness out of the complex idea the name gold is by any one annexed to, may be said of its peculiar weight, fixedness, and several other the like qualities: for whatsoever is left out, or put in, it is still the complex idea, to which that name is annexed, that makes the species; and as any particular parcel of matter answers that idea, so the name of the sort belongs truly to it; and it is of that species. And thus any thing is true gold, perfect metal. All which determination of the species, it is plain, depends on the understanding of man, making this or that complex idea.

3.6.36 *Nature makes the similitude.*—This then, in short, is the case: nature makes many particular things

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bird as many Englishmen know about swans or herons. Those are specific names, very well known, of sorts of birds common in England.

Men determine the sorts.—From what has been said, it is evident that men make sorts of things. Since it is different essences alone that make different species, it is plain that those who make the abstract ideas, which are the nominal essences, thereby make the species, or sort. Suppose a body were found that had all the other qualities of gold except malleability. It would no doubt become a question whether it was gold or not, that is, whether it was of that species.

This could be settled only by the abstract idea to which each person attached the name gold. Someone who did not include malleability in his nominal essence, signified by the sound gold, would count it true gold and of that species. On the other hand, someone who included malleability in his specific idea would not count it true gold, or of that species. And who, I ask, makes these different species, even under one and the same name, but men who make two different abstract ideas that do not consist of exactly the same collection of qualities?

Nor is it a mere supposition to imagine that a body may exist in which the other obvious qualities of gold are present without malleability. It is certain that gold itself is sometimes so "eager" (as craftsmen call it) that it will stand the hammer no better than glass itself.[24]

What we have said about putting malleability into, or leaving it out of, the complex idea to which someone attaches the name gold may be said of its distinctive weight, its fixedness, and several other similar qualities. Whatever is left out or put in, it is still the complex idea to which that name is attached that makes the species. Insofar as any particular parcel of matter answers to that idea, the name of the sort truly belongs to it, and it is of that species. This is how anything is true gold, perfect metal. It is plain that this whole determination of the species depends on the human understanding, which makes this or that complex idea.

Nature makes the similitude.—In short, then, the case is this. Nature makes many particular things

24 "Eager" was a metalworkers' term for brittle metal.

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which do agree one with another, in many sensible qualities, and probably too in their internal frame and constitution: but it is not this real essence that distinguishes them into species; it is men, who, taking occasion from the qualities they find united in them, and wherein they observe often several individuals to agree, range them into sorts, in order to their naming, for the convenience of comprehensive signs; under which individuals, according to their conformity to this or that abstract idea, come to be ranked as under ensigns; so that this is of the blue, that of the red regiment; this a man, that a drill: and in this, I think, consists the whole business of genus and species.

3.6.37 I do not deny but nature, in the constant production of particular beings, makes them not always new and various, but very much alike and of kin one to another: but I think it nevertheless true, that the boundaries of the species, whereby men sort them, are made by men; since the essences of the species, distinguished by different names, are, as has been proved, of man's making, and seldom adequate to the internal nature of the things they are taken from. So that we may truly say, such a manner of sorting of things is the workmanship of men.

3.6.38 *Each abstract idea is an essence.*—One thing I doubt not but will seem very strange in this doctrine; which is, that from what has been said it will follow, that each abstract idea, with a name to it, makes a distinct species. But who can help it, if truth will have it so? For so it must remain till somebody can show us the species of things limited and distinguished by something else, and let us see, that general terms signify not our abstract ideas, but something different from them. I would fain know why a shock and a hound are not as distinct species as a spaniel and an elephant.

We have no other idea of the different essence of an elephant and a spaniel, than we have of the different essence of a shock and a hound; all the essential difference, whereby we know and distinguish them one from another, consisting

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that agree with one another in many sensible qualities, and probably also in their internal frame and constitution. But it is not this real essence that distinguishes them into species. It is men who do that. They take their cue from the qualities they find united in things, in which they often observe several individuals to agree, and they range them into sorts for the purpose of naming them, for the convenience of comprehensive signs. Individuals then come to be ranked under these signs as under regimental flags, according to their conformity to this or that abstract idea. So this one belongs to the blue regiment, that one to the red; this is a man, that a drill. And in this, I think, consists the whole business of genus and species.

I do not deny that nature, in its constant production of particular beings, does not always make them new and various, but very much alike and akin to one another. But I think it is nonetheless true that the boundaries of the species by which men sort them are made by men. As has been proved, the essences of the species distinguished by different names are of man's making, and they are seldom adequate to the internal nature of the things they are taken from. So we may truly say that this way of sorting things is the workmanship of men.

Each abstract idea is an essence.—One thing in this doctrine will, I do not doubt, seem very strange. It follows from what has been said that each abstract idea with a name attached makes a distinct species. But who can help it, if truth will have it so? So it must remain until somebody can show us that the species of things are limited and distinguished by something else, and let us see that general terms signify not our abstract ideas but something different from them. I would very much like to know why a shock dog and a hound are not as distinct species as a spaniel and an elephant.[25]

We have no other idea of the different essence of an elephant and a spaniel than we have of the different essence of a shock dog and a hound. All the essential difference by which we know them and distinguish them from one another consists only

25 A shock, or shock dog, was a small, shaggy-haired lapdog.

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only in the different collection of simple ideas, to which we have given those different names.

3.6.39 *Genera and species are in order to naming.*—How much the making of species and genera is in order to general names, and how much general names are necessary, if not to the being, yet at least to the completing of a species, and making it pass for such, will appear, besides what has been said above concerning ice and water, in a very familiar example. A silent and a striking watch are but one species to those who have but one name for them: but he that has the name watch for one, and clock for the other, and distinct complex ideas to which those names belong, to him they are different species.

It will be said, perhaps, that the inward contrivance and constitution is different between these two, which the watchmaker has a clear idea of. And yet it is plain, they are but one species to him, when he has but one name for them. For what is sufficient in the inward contrivance to make a new species? There are some watches that are made with four wheels, others with five: is this a specific difference to the workman!

Some have strings and fusees, and others none; some have the balance loose, and others regulated by a spiral spring, and others by hog's bristles: are any or all of these enough to make a specific difference to the workman, that knows each of these, and several other different contrivances, in the internal constitutions of watches?

It is certain each of these hath a real difference from the rest; but whether it be an essential, a specific difference or no, relates only to the complex idea to which the name watch is given: as long as they all agree in the idea which that name stands for, and that name does not as a generical name comprehend different species under it, they are not essentially nor specifically different.

But if any one will make minuter divisions from differences that he knows in the internal frame of watches, and to such precise complex ideas, give names that shall prevail, they will then be new

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in the different collections of simple ideas to which we have given those different names.

Genera and species are for the sake of naming.—How far the making of species and genera serves general names, and how necessary general names are, if not to the existence of a species, then at least to completing it and making it pass as such, will appear from a very familiar example, besides what was said above about ice and water. A silent watch and a striking watch are only one species to those who have only one name for them. But to someone who has the name watch for one and clock for the other, and distinct complex ideas to which those names belong, they are different species.[26]

Perhaps it will be said that the inner mechanism and constitution of these two are different, and that the watchmaker has a clear idea of the difference. And yet it is plain that they are only one species to him when he has only one name for them. For what in the inner mechanism is enough to make a new species? Some watches are made with four wheels, others with five: is this a specific difference to the craftsman?

Some have strings and fusees, and others none. Some have the balance loose, others have it regulated by a spiral spring, and others by hog's bristles. Are any or all of these enough to make a specific difference to the craftsman, who knows each of these and several other different mechanisms in the internal constitution of watches?[27]

It is certain that each of these has a real difference from the rest. But whether it is an essential, a specific difference or not depends only on the complex idea to which the name watch is given. As long as they all agree in the idea that name stands for, and the name does not, as a generic name, include different species under it, they are neither essentially nor specifically different.

But suppose someone makes finer divisions based on differences he knows in the internal frame of watches, and gives these precise complex ideas names that catch on. Then they will be new spe-

26 A striking watch or clock sounds the hours; a silent one only shows them.
27 A fusee is a cone-shaped pulley, wound with a cord or chain, that evens out the pull of the mainspring. Hog's bristles served as an early regulator of the balance.

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species to them, who have those ideas with names to them; and can by those differences distinguish watches into these several sorts, and then watch will be a generical name. But yet they would be no distinct species to men ignorant of clock-work and the inward contrivances of watches, who had no other idea but the outward shape and bulk, with the marking of the hours by the hand.

For to them all those other names would be but synonymous terms for the same idea, and signify no more, nor no other thing but a watch. Just thus, I think, it is in natural things. Nobody will doubt that the wheels or springs (if I may so say) within, are different in a rational man and a changeling, no more than that there is a difference in the frame between a drill and a changeling.

But whether one or both these differences be essential or specifical, is only to be known to us, by their agreement or disagreement with the complex idea that the name man stands for: for by that alone can it be determined, whether one, or both, or neither of those be a man or no.

3.6.40 *Species of artificial things less confused than natural.* —From what has been before said, we may see the reason why in the species of artificial things, there is generally less confusion and uncertainty, than in natural. Because an artificial thing being a production of man, which the artificer designed, and therefore well knows the idea of, the name of it is supposed to stand for no other idea, nor to import any other essence than what is certainly to be known, and easy enough to be apprehended.

For the idea or essence of the several sorts of artificial things, consisting, for the most part, in nothing but the determinate figure of sensible parts; and sometimes motion depending thereon, which the artificer fashions in matter, such as he finds for his turn; it is not beyond the reach of our faculties to attain a certain idea thereof, and to settle the signification of the names, whereby the species of artificial things are distinguished with less doubt, obscurity, and equivocation, than we can in things natural, whose differences and operations depend upon contrivances beyond the reach of our discoveries.

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cies to those who have those ideas with names attached and who can use those differences to distinguish watches into these several sorts, and watch will then be a generic name. But they would still be no distinct species to people ignorant of clockwork and the inner mechanisms of watches, who had no idea beyond the outward shape and size and the hand marking the hours.

For to them all those other names would be only synonymous terms for the same idea, and would signify nothing more, and nothing other, than a watch. It is just so, I think, with natural things. Nobody will doubt that the wheels or springs inside (if I may put it that way) are different in a rational man and in a severely intellectually disabled person. Nor will anybody doubt that there is a difference in frame between a drill and such a person.

But whether one or both of these differences are essential or specific can be known to us only by their agreement or disagreement with the complex idea that the name man stands for. By that alone can it be determined whether one, or both, or neither of them is a man.

Species of artificial things less confused than natural ones.—From what has been said, we can see why there is generally less confusion and uncertainty in the species of artificial things than in natural ones. An artificial thing is a production of man. The craftsman designed it and therefore knows its idea well. So its name is supposed to stand for no other idea, and to imply no other essence, than what can be known with certainty and is easy enough to grasp.

For the idea or essence of the various sorts of artificial things consists, for the most part, in nothing but the definite shape of sensible parts, and sometimes a motion depending on it, which the craftsman fashions in whatever matter he finds suits his purpose. So it is not beyond the reach of our faculties to attain a certain idea of it. Nor is it beyond them to settle the meaning of the names by which the species of artificial things are distinguished, with less doubt, obscurity, and equivocation than we can manage with natural things, whose differences and operations depend on mechanisms beyond the reach of our discoveries.

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Artificial things of distinct species.—I must be excused here if I think artificial things are of distinct species, as well as natural: since I find they are as plainly and orderly ranked into sorts, by different abstract ideas, with general names annexed to them, as distinct one from another as those of natural substances. For why should we think a watch and pistol as distinct species one from another, as a horse and a dog, they being expressed in our minds by distinct ideas, and to others by distinct appellations?

3.6.42 *Substances alone have proper names.*—This is farther to be observed concerning substances, that they alone of all our several sorts of ideas have particular or proper names, whereby the only particular thing is signified. Because in simple ideas, modes, and relations, it seldom happens that men have occasion to mention often this or that particular when it is absent. Besides, the greatest part of mixed modes, being actions which perish in their birth, are not capable of a lasting duration as substances, which are the actors: and wherein the simple ideas that make up the complex ideas designed by the name, have a lasting union.

3.6.43 *Difficulty to treat of words.*—I must beg pardon of my reader, for having dwelt so long upon this subject, and perhaps with some obscurity. But I desire it may be considered how difficult it is to lead another by words into the thoughts of things stripped of those specific differences we give them: which things, if I name not, I say nothing; and if I do name them, I thereby rank them into some sort or other, and suggest to the mind the usual abstract idea of that species, and so cross my purpose.

For to talk of a man, and to lay by, at the same time, the ordinary signification of the name man, which is our complex idea usually annexed to it; and bid the reader consider man as he is in himself, and as he is really distinguished from others in his internal constitution, or real essence, that is, by something, he knows not what, looks like trifling:

and yet thus one must do who would speak of the supposed real essences and species of things, as thought to be made by nature, if it be but only to make it understood, that there is no such thing signified by the general names, which substances

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Artificial things of distinct species.—I must be excused here if I think artificial things are of distinct species just as natural ones are. I find they are ranked into sorts as plainly and orderly as natural substances, by different abstract ideas with general names attached to them, and those sorts are as distinct from one another. Why should we not think a watch and a pistol as distinct species from each other as a horse and a dog, since they are expressed in our minds by distinct ideas, and to others by distinct names?

Substances alone have proper names.—It should further be observed about substances that they alone, of all our sorts of ideas, have particular or proper names, by which one single particular thing is signified. With simple ideas, modes, and relations, men seldom have occasion to mention this or that particular one often when it is absent. Besides, most mixed modes are actions that perish as they are born, and so they cannot last as substances do. Substances are the agents, and in them the simple ideas that make up the complex ideas designated by the name have a lasting union.

Difficulty of treating of words.—I must beg my reader's pardon for having dwelt so long on this subject, and perhaps with some obscurity. But I ask that it be considered how difficult it is to lead another person by words into thinking of things stripped of the specific differences we give them. If I do not name those things, I say nothing. If I do name them, I thereby rank them into some sort or other and suggest to the mind the usual abstract idea of that species, and so defeat my purpose.

Consider what it would mean to talk of a man while setting aside the ordinary meaning of the name man, which is the complex idea usually attached to it. One would have to bid the reader consider man as he is in himself, and as he is really distinguished from others in his internal constitution, or real essence—that is, by something, he knows not what. That looks like trifling.

And yet this is what anyone must do who wants to speak of the supposed real essences and species of things as though they were made by nature, if only to make it understood that no such thing is

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are called by, but because it is difficult by known familiar names to do this, give me leave to endeavour by an example, to make the different consideration the mind has of specific names and ideas a little more clear; and to show how the complex ideas of modes are referred sometimes to archetypes in the minds of other intelligent beings; or, which is the same, to the signification annexed by others to their received names; and sometimes to no archetypes at all.

Give me leave also to show how the mind always refers its ideas of substances, either to the substances themselves, or to the signification of their names as to the archetypes; and also to make plain the nature of species, or sorting of things, as apprehended, and made use of by us; and of the essences belonging to those species, which is perhaps of more moment, to discover the extent and certainty of our knowledge than we at first imagine.

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signified by the general names by which substances are called. But it is difficult to do this with known, familiar names, so allow me to try it by an example. I want to make a little clearer the different ways the mind considers specific names and ideas. I also want to show how the complex ideas of modes are sometimes referred to archetypes in the minds of other intelligent beings (or, what comes to the same thing, to the meaning others attach to their accepted names), and sometimes to no archetypes at all.

Allow me also to show how the mind always refers its ideas of substances, as to archetypes, either to the substances themselves or to the meaning of their names. And allow me to make plain the nature of species, or the sorting of things, as we apprehend and use it, and of the essences belonging to those species. This is perhaps of more importance for discovering the extent and certainty of our knowledge than we at first imagine.

ADAM NAMES JEALOUSY AND GOLD

Locke imagines Adam coining kinneah and niouph for mixed modes and zahab for a newly found substance.

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3.6.44 *Instances of mixed modes in kinneah and niouph.*— Let us suppose Adam in the state of a grown man, with a good understanding, but in a strange country, with all things new and unknown about him; and no other faculties to attain the knowledge of them, but what one of this age has now. He observes Lamech more melancholy than usual, and imagines it to be from a suspicion he has of his wife Adah (whom he most ardently loved) that she had too much kindness for another man. Adam discourses these his thoughts to Eve, and desires her to take care that Adah commit not folly: and in these discourses with Eve he makes use of these two new words, kinneah and niouph.

In time Adam's mistake appears, for he finds Lamech's trouble proceeded from having killed a man; but yet the two names, kinneah and niouph; the one standing for suspicion, in a husband, of his wife's disloyalty to him, and the other for the act of committing disloyalty, lost not their

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Instances of mixed modes in kinneah and niouph.—Let us suppose Adam as a grown man, with a good understanding, but in a strange country, where everything around him is new and unknown. He has no other faculties for gaining knowledge of these things than someone in our own age has now. He observes that Lamech is more melancholy than usual. He imagines this comes from a suspicion Lamech has of his wife Adah, whom he loved most ardently, that she was too fond of another man. Adam tells Eve these thoughts of his and asks her to take care that Adah does not commit folly. In these conversations with Eve he uses two new words, kinneah and niouph.[28]

In time Adam's mistake comes to light, for he finds that Lamech's trouble came from having killed a man. Yet the two names, kinneah and niouph, did not lose their distinct meanings: the one stood for a husband's suspicion that his wife is disloyal to him, the other for the act of committing disloyalty.

28 Kinneah and niouph are Locke's transliterations of the Hebrew words for "jealousy" and "adultery." Lamech and Adah appear in Genesis 4.

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distinct significations. It is plain then that here were two distinct complex ideas of mixed modes, with names to them, two distinct species of action essentially different; I ask wherein consisted the essences of these two distinct species of action? And it is plain it consisted in a precise combination of simple ideas, different in one from the other.

I ask, whether the complex idea in Adam's mind, which he called kinneah, were adequate or no? And it is plain it was, for it being a combination of simple ideas, which he, without any regard to any archetype, without respect to any thing as a pattern, voluntarily put together, abstracted, and gave the name kinneah to, to express in short to others, by that one sound, all the simple ideas contained and united in that complex one; it must necessarily follow, that it was an adequate idea.

His own choice having made that combination, it had all in it he intended it should, and so could not but be perfect, could not but be adequate, it being referred to no other archetype, which it was supposed to represent.

3.6.45 These words, kinneah and niouph, by degrees grew into common use; and then the case was somewhat altered. Adam's children had the same faculties, and thereby the same power that he had to make what complex ideas of mixed modes they pleased in their own minds: to abstract them, and make what sounds they pleased the signs of them: but the use of names being to make our ideas within us known to others, that cannot be done, but when the same sign stands for the same idea in two who would communicate their thoughts, and discourse together.

Those therefore of Adam's children that found these two words, kinneah and niouph, in familiar use, could not take them for insignificant sounds; but must needs conclude, they stood for something, for certain ideas, abstract ideas, they being general names, which abstract ideas were the essences of the species distinguished by those names.

If, therefore, they would use these words, as names of species already established and agreed on, they were obliged to conform the ideas, in

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It is plain, then, that here were two distinct complex ideas of mixed modes, with names attached, two distinct species of action, essentially different. I ask: in what did the essences of these two distinct species of action consist? It is plain that each consisted in a precise combination of simple ideas, different in the one from the other.[29]

I ask whether the complex idea in Adam's mind that he called kinneah was adequate or not. It is plain that it was. It was a combination of simple ideas that he put together voluntarily, without regard to any archetype or reference to anything as a pattern. He abstracted it and gave it the name kinneah, in order to express briefly to others, by that one sound, all the simple ideas contained and united in that complex one. So it must necessarily follow that it was an adequate idea.

Since his own choice had made that combination, it had in it everything he intended it to have. So it could not fail to be perfect, could not fail to be adequate, since it was referred to no other archetype that it was supposed to represent.

These words, kinneah and niouph, gradually came into common use, and then the case was somewhat altered. Adam's children had the same faculties he had, and so the same power to make whatever complex ideas of mixed modes they pleased in their own minds, to abstract them, and to make whatever sounds they pleased the signs of them. But the use of names is to make the ideas within us known to others. That cannot be done unless the same sign stands for the same idea in two people who want to communicate their thoughts and talk together.

So those of Adam's children who found these two words, kinneah and niouph, in familiar use could not take them for meaningless sounds. They had to conclude that the words stood for something: for certain ideas, abstract ideas, since they were general names. And these abstract ideas were the essences of the species distinguished by those names.

If, then, they wanted to use these words as names of species already established and agreed on, they were obliged to conform the ideas in their minds

29 Lamech's admission that he killed a man is in Genesis 4:23.

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their minds, signified by these names, to the ideas that they stood for in other men's minds, as to their patterns and archetypes; and then indeed their ideas of these complex modes were liable to be inadequate, as being very apt (especially those that consisted of combinations of many simple ideas) not to be exactly conformable to the ideas in other men's minds, using the same names;

though for this there be usually a remedy at hand, which is to ask the meaning of any word we understand not, of him that uses it: it being as impossible to know certainly what the words jealousy and adultery (which I think answer קנאה and נאוף) stand for in another man's mind, with whom I would discourse about them; as it was impossible, in the beginning of language, to know what kinneah and niouph stood for in another man's mind, without explication, they being voluntary signs in every one.

3.6.46 *Instances of substances in zahab.*—Let us now also consider, after the same manner, the names of substances in their first application. One of Adam's children, roving in the mountains, lights on a glittering substance which pleases his eye; home he carries it to Adam, who, upon consideration of it, finds it to be hard, to have a bright yellow colour, and an exceeding great weight. These, perhaps, at first, are all the qualities he takes notice of in it: and abstracting this complex idea, consisting of a substance having that peculiar bright yellowness, and a weight very great in proportion to its bulk, he gives it the name zahab, to denote and mark all substances that have these sensible qualities in them.

It is evident now that, in this case, Adam acts quite differently from what he did before in forming those ideas of mixed modes, to which he gave the names kinneah and niouph. For there he puts ideas together, only by his own imagination, not taken from the existence of any thing; and to them he gave names to denominate all things that should happen to agree to those his abstract ideas, without considering whether any such thing did exist or no: the standard there was of his own making.

But in the forming his idea of this new substance, he takes the quite contrary course; here he has a

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signified by these names to the ideas the names stood for in other people's minds, as to their patterns and archetypes. And then indeed their ideas of these complex modes were liable to be inadequate. They were very apt not to conform exactly to the ideas in the minds of others using the same names, especially those ideas that consisted of combinations of many simple ideas.

There is, however, usually a remedy at hand for this: when we do not understand a word, we can ask the person who uses it what he means by it. It is as impossible to know for certain what the words jealousy and adultery (which I think correspond to קנאה and נאוף) stand for in the mind of another man with whom I want to talk about them, as it was impossible, at the beginning of language, to know without explanation what kinneah and niouph stood for in another man's mind. In everyone they are voluntary signs.

Instances of substances in zahab.—Let us now also consider, in the same way, the names of substances when first applied. One of Adam's children, roaming in the mountains, comes upon a glittering substance that pleases his eye. He carries it home to Adam, who examines it and finds it to be hard, of a bright yellow color, and of exceedingly great weight. These, perhaps, are at first all the qualities he notices in it. He abstracts this complex idea, consisting of a substance with that distinctive bright yellowness and a weight very great in proportion to its bulk. Then he gives it the name zahab, to denote and mark all substances that have these sensible qualities.[30]

It is evident now that in this case Adam acts quite differently from the way he acted before, when he formed the ideas of mixed modes to which he gave the names kinneah and niouph. There he put ideas together by his own imagination alone, not taking them from the existence of anything. He gave them names to denominate all things that should happen to agree with those abstract ideas of his, without considering whether any such thing existed or not. There the standard was of his own making.

But in forming his idea of this new substance he takes the entirely opposite course. Here he has a

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standard made by nature; and therefore being to represent that to himself, by the idea he has of it, even when it is absent, he puts in no simple idea into his complex one, but what he has the perception of from the thing itself. He takes care that his idea be conformable to this archetype, and intends the name should stand for an idea so conformable.

3.6.47 This piece of matter, thus denominated zahab, by Adam, being quite different from any he had seen before, nobody, I think, will deny to be a distinct species, and to have its peculiar essence; and that the name zahab is the mark of the species, and a name belonging to all things partaking in that essence. But here it is plain, the essence Adam made the name zahab stand for, was nothing but a body hard, shining, yellow, and very heavy. But the inquisitive mind of man, not content with the knowledge of these, as I may say, superficial qualities, puts Adam on farther examination of this matter.

He therefore knocks and beats it with flints, to see what was discoverable in the inside: he finds it yield to blows, but not easily separate into pieces: he finds it will bend without breaking. Is not now ductility to be added to his former idea, and made part of the essence of the species that name zahab stands for? Farther trials discover fusibility and fixedness. Are not they also, by the same reason that any of the others were, to be put into the complex idea signified by the name zahab? If not, what reason will there be shown more for the one than the other?

If these must, then all the other properties, which any farther trials shall discover in this matter, ought, by the same reason to make a part of the ingredients of the complex idea, which the name zahab stands for, and so be the essence of the species marked by that name. Which properties, because they are endless, it is plain, that the idea made after this fashion by this archetype, will be always inadequate.

3.6.48 *Their ideas imperfect, and therefore various.*—But this is not all; it would also follow, that the names of substances would not only have (as in truth they have) but would also be supposed to have different significations, as used by different men,

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standard made by nature. He is to represent that standard to himself by the idea he has of it, even when it is absent, and so he puts no simple idea into his complex one except what he perceives from the thing itself. He takes care that his idea conforms to this archetype, and intends the name to stand for an idea that conforms to it.

This piece of matter, which Adam thus named zahab, was quite different from any he had seen before. Nobody, I think, will deny that it is a distinct species with its own essence, or that the name zahab is the mark of the species, a name belonging to all things that partake of that essence. But here it is plain that the essence Adam made the name zahab stand for was nothing but a body that is hard, shining, yellow, and very heavy. The inquisitive human mind, however, is not content with knowing these superficial qualities, as I may call them, and it prompts Adam to examine this matter further.

So he knocks it and beats it with flints, to see what could be discovered inside. He finds that it yields to blows but does not easily break into pieces, and that it will bend without breaking. Should ductility not now be added to his former idea, and made part of the essence of the species the name zahab stands for? Further trials reveal fusibility and fixedness. Are these not also to be put into the complex idea signified by the name zahab, for the same reason as any of the others? If not, what reason can be shown for one more than for the other?

If they must, then all the other properties that further trials discover in this matter ought, for the same reason, to become ingredients of the complex idea the name zahab stands for, and so be the essence of the species marked by that name. And since these properties are endless, it is plain that the idea made in this way, after this archetype, will always be inadequate.

Their ideas imperfect, and therefore various.—But this is not all. It would also follow that the names of substances would be supposed to have different meanings as used by different people, and not only to have them (as in truth they do). This would

30 Zahab is Hebrew for "gold."

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which would very much cumber the use of language. For if every distinct quality, that were discovered in any matter by any one, were supposed to make a necessary part of the complex idea, signified by the common name given it, it must follow, that men must suppose the same word to signify different things in different men; since they cannot doubt but different men may have discovered several qualities in substances of the same denomination, which others know nothing of.

3.6.49 *Therefore to fix their species, a real essence is supposed.*—To avoid this, therefore, they have supposed a real essence belonging to every species, from which these properties all flow, and would have their name of the species stand for that. But they not having any idea of that real essence in substance, and their words signifying nothing but the ideas they have, that which is done by this attempt, is only to put the name or sound in the place and stead of the thing having that real essence, without knowing what the real essence is; and this is that which men do, when they speak of species of things, as supposing them made by nature, and distinguished by real essences.

3.6.50 *Which supposition is of no use.*—For let us consider, when we affirm that all gold is fixed, either it means that fixedness is a part of the definition, part of the nominal essence the word gold stands for; and so this affirmation, all gold is fixed, contains nothing but the signification of the term gold. Or else it means, that fixedness not being a part of the definition of the word gold, is a property of that substance itself; in which case, it is plain, that the word gold stands in the place of a substance, having the real essence of a species of things made by nature.

In which way of substitution it has so confused and uncertain a signification, that though this proposition, gold is fixed, be in that sense an affirmation of something real, yet it is a truth will always fail us in its particular application, and so is of no real use nor certainty. For let it be ever so true, that all gold, *i. e.* all that has the real essence of gold, is fixed, what serves this for, whilst we know not, in this sense, what is or is not gold? for if we know not the real essence of gold, it is impossible we should know what parcel of matter

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greatly encumber the use of language. Suppose every distinct quality that anyone discovered in any matter were taken to be a necessary part of the complex idea signified by the common name given to it. Then people must suppose that the same word signifies different things in different people. They cannot doubt that different people may have discovered various qualities in substances of the same name that others know nothing about.

Therefore, to fix their species, a real essence is supposed.—To avoid this, people have supposed a real essence belonging to every species, from which all these properties flow, and they would have their name for the species stand for that. But they have no idea of that real essence in substances, and their words signify nothing but the ideas they have. So all this attempt accomplishes is to put the name or sound in place of the thing having that real essence, without knowing what the real essence is. And this is what people do when they speak of species of things as if they were made by nature and distinguished by real essences.

Which supposition is of no use.—For let us consider what we mean when we affirm that all gold is fixed. Either this means that fixedness is part of the definition, part of the nominal essence the word gold stands for. In that case the affirmation all gold is fixed contains nothing but the meaning of the term gold. Or else it means that fixedness is not part of the definition of the word gold but is a property of that substance itself. In that case it is plain that the word gold stands in place of a substance having the real essence of a species of things made by nature.

Used as such a substitute, the word has so confused and uncertain a meaning that the proposition gold is fixed, though in that sense an affirmation of something real, is a truth that will always fail us in its particular application. So it is of no real use or certainty. However true it may be that all gold, that is, all that has the real essence of gold, is fixed, what good is this while we do not know, in this sense, what is gold and what is not? If we do not know the real essence of gold, it is im-

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has that essence, and so whether it be true gold or no.

3.6.51 *Conclusion.*—To conclude: what liberty Adam had at first to make any complex ideas of mixed modes, by no other patterns but by his own thoughts, the same have all men ever since had. And the same necessity of conforming his ideas of substances to things without him, as to archetypes made by nature, that Adam was under, if he would not wilfully impose upon himself; the same are all men ever since under too.

The same liberty also that Adam had of affixing any new name to any idea, the same has any one still (especially the beginners of languages, if we can imagine any such) but only with this difference, that in places where men in society have already established a language among them, the significations of words are very warily and sparingly to be altered: because men being furnished already with names for their ideas, and common use having appropriated known names to certain ideas, an affected misapplication of them cannot but be very ridiculous.

He that hath new notions will perhaps venture sometimes on the coining of new terms to express them: but men think it a boldness, and it is uncertain whether common use will ever make them pass for current. But in communication with others, it is necessary that we conform the ideas we make the vulgar words of any language stand for, to their known proper significations (which I have explained at large already) or else to make known that new signification we apply them to.

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possible for us to know which parcel of matter has that essence, and so whether it is true gold or not.

Conclusion.—To conclude: at first Adam had the liberty to make any complex ideas of mixed modes, with no other pattern than his own thoughts, and all men have had that same liberty ever since. Adam was also under the necessity of conforming his ideas of substances to things outside him, as to archetypes made by nature, if he did not want to deceive himself willfully. All men have been under that same necessity ever since.

Anyone still has the same liberty Adam had of attaching any new name to any idea (especially the founders of languages, if we can imagine any such), with only this difference. Where people in society have already established a language among themselves, the meanings of words should be altered very cautiously and sparingly. People are already supplied with names for their ideas, and common use has assigned known names to certain ideas, so an affected misapplication of them cannot fail to be very ridiculous.

Someone who has new notions will perhaps sometimes venture to coin new terms to express them. But people think this is presumptuous, and it is uncertain whether common use will ever make such terms current. In communicating with others, we must conform the ideas we make the ordinary words of any language stand for to their known proper meanings (which I have already explained at length), or else make known the new meaning we give them.

PARTICLES

Particles such as "but" mark the connections and postures the mind gives to its thoughts.

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3.7.1 *Particles connect parts, or whole sentences together.*—Besides words which are names of ideas in the mind, there are a great many others that are made use of to signify the connexion that the mind gives to ideas, or propositions, one with another. The mind, in communicating its thought to others, does not only need signs of the ideas it has then before it, but others also, to show or intimate some particular action of its own at that time

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Particles connect parts, or whole sentences, together.—Besides words that are names of ideas in the mind, there are a great many others used to signify the connection the mind gives to ideas, or propositions, with one another. In communicating its thoughts to others, the mind needs signs of the ideas it has before it at the time. But it also needs other signs, to show or indicate some particular action of its own at that time relating to those

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relating to those ideas. This it does several ways; as is, and is not, are the general marks of the mind, affirming or denying.

But besides affirmation or negation, without which there is in words no truth or falsehood, the mind does, in declaring its sentiments to others, connect not only the parts of propositions, but whole sentences one to another, with their several relations and dependencies, to make a coherent discourse.

3.7.2 *In them consists the art of well speaking.*—The words, whereby it signifies what connexion it gives to the several affirmations and negations, that it unites in one continued reasoning or narration, are generally called particles; and it is in the right use of these that more particularly consists the clearness and beauty of a good style. To think well, it is not enough that a man has ideas clear and distinct in his thoughts, nor that he observes the agreement or disagreement of some of them; but he must think in train, and observe the dependence of his thoughts and reasonings upon one another.

And to express well such methodical and rational thoughts, he must have words to show what connexion, restriction, distinction, opposition, emphasis, &c. he gives to each respective part of his discourse. To mistake in any of these, is to puzzle, instead of informing, his hearer; and therefore it is that those words which are not truly by themselves the names of any ideas, are of such constant and indispensable use in language, and do much contribute to men's well expressing themselves.

3.7.3 *They show what relation the mind gives to its own thoughts.*—This part of grammar has been perhaps as much neglected as some others over-diligently cultivated. It is easy for men to write, one after another, of cases and genders, moods and tenses, gerunds and supines: in these, and the like, there has been great diligence used; and particles themselves, in some languages, have been, with great show of exactness, ranked into their several orders. But though prepositions and conjunctions, &c.

are names well known in grammar, and the particles contained under them carefully ranked into their distinct subdivisions; yet he who would

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ideas. It does this in several ways. For example, is and is not are the general marks of the mind affirming or denying.

Besides affirmation and negation, without which there is no truth or falsehood in words, the mind does something more in declaring its views to others. It connects not only the parts of propositions but whole sentences to one another, with their various relations and dependencies, to make a coherent discourse.

In them consists the art of speaking well.—The mind unites various affirmations and negations in one continuous piece of reasoning or narration. The words by which it signifies what connection it gives to them are generally called particles, and the clearness and beauty of a good style consist especially in the right use of these. To think well, it is not enough for a man to have clear and distinct ideas in his thoughts, or to observe the agreement or disagreement of some of them. He must think in sequence, and observe how his thoughts and reasonings depend on one another.

And to express such methodical and rational thoughts well, he must have words to show what connection, restriction, distinction, opposition, emphasis, and so on, he gives to each part of his discourse. A mistake in any of these puzzles his hearer instead of informing him. That is why these words, though by themselves they are not truly names of any ideas, are of such constant and indispensable use in language, and do so much to help people express themselves well.

They show what relation the mind gives to its own thoughts.—This part of grammar has perhaps been as much neglected as some others have been over-diligently cultivated. It is easy for people to write, one after another, about cases and genders, moods and tenses, gerunds and supines. Great diligence has been spent on these and the like, and in some languages the particles themselves have been ranked into their various orders with a great show of exactness. But although prepositions and conjunctions, etc.,

are well-known names in grammar, and the particles contained under them are carefully ranked into their distinct subdivisions, anyone

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show the right use of particles, and what significancy and force they have, must take a little more pains, enter into his own thoughts, and observe nicely the several postures of his mind in discoursing.

3.7.4 Neither is it enough, for the explaining of these words, to render them, as is usual in dictionaries, by words of another tongue which come nearest to their signification: for what is meant by them is commonly as hard to be understood in one as another language. They are all marks of some action, or intimation of the mind; and therefore to understand them rightly, the several views, postures, stands, turns, limitations, and exceptions, and several other thoughts of the mind, for which we have either none, or very deficient names, are diligently to be studied.

Of these there is a great variety, much exceeding the number of particles that most languages have to express them by; and therefore it is not to be wondered that most of these particles have divers, and sometimes almost opposite significations. In the Hebrew tongue there is a particle, consisting but of one single letter, of which there are reckoned up, as I remember, seventy, I am sure above fifty, several significations.

3.7.5 *Instance in but.*—But is a particle, none more familiar in our language; and he that says it is a discretive conjunction, and that it answers *sed* in Latin, or *mais* in French, thinks he has sufficiently explained it. But it seems to me to intimate several relations the mind gives to the several propositions or parts of them, which it joins by this monosyllable.

First, "but to say no more:" here it intimates the stop of the mind in the course it was going, before it came quite to the end of it.

Secondly, "I saw but two plants:" here it shows, that the mind limits the sense to what is expressed, with a negation of all other.

Thirdly, "you pray; but it is not that God would bring you to the true religion."

Fourthly, "but that he would confirm you in your own." The first of these buts intimates a

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who wants to show the right use of particles, and what meaning and force they have, must take a little more trouble. He must enter into his own thoughts and observe closely the various postures of his mind in discoursing.

Nor is it enough, in explaining these words, to render them, as dictionaries usually do, by the words of another language that come nearest to their meaning. What they mean is commonly as hard to understand in one language as in another. They are all marks of some action or indication of the mind. So to understand them rightly, we must diligently study the various views, postures, stands, turns, limitations, and exceptions, and various other thoughts of the mind, for which we have either no names or very deficient ones.

There is a great variety of these, far more than the number of particles most languages have to express them. So it is no wonder that most of these particles have various, and sometimes almost opposite, meanings. In Hebrew there is a particle consisting of only a single letter, for which seventy different meanings are counted, as I remember. I am sure there are more than fifty.[31]

Instance in but.—But is a particle, and none is more familiar in our language. Someone who says it is a discretive conjunction, and that it corresponds to *sed* in Latin or *mais* in French, thinks he has explained it well enough. But it seems to me to indicate several relations that the mind gives to the various propositions, or parts of them, that it joins by this monosyllable.

First, “but to say no more”: here it indicates that the mind stops in the course it was taking, before it has quite reached the end.

Second, “I saw but two plants”: here it shows that the mind limits the sense to what is expressed, and excludes everything else.

Third, “you pray; but it is not that God would bring you to the true religion.”

Fourth, “but that he would confirm you in your own.” The first of these buts indicates a supposi-

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supposition in the mind of something otherwise than it should be; the latter shows, that the mind makes a direct opposition between that, and what goes before it.

Fifthly, "all animals have sense; but a dog is an animal;" here it signifies little more but that the latter proposition is joined to the former, as the minor of a syllogism.

3.7.6 *This matter but lightly touched here.*—To these, I doubt not, might be added a great many other significations of this particle, if it were my business to examine it in its full latitude, and consider it in all the places it is to be found: which if one should do, I doubt whether in all those manners it is made use of, it would deserve the title of discretive which grammarians give to it. But I intend not here a full explication of this sort of signs.

The instances I have given in this one, may give occasion to reflect on their use and force in language, and lead us into the contemplation of several actions of our minds in discoursing, which it has found a way to intimate to others by these particles; some whereof constantly, and others in certain constructions, have the sense of a whole sentence contained in them.

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tion in the mind of something other than it should be. The second shows that the mind sets up a direct opposition between that and what comes before it.

Fifth, "all animals have sense; but a dog is an animal": here it signifies little more than that the second proposition is joined to the first as the minor premise of a syllogism.

This matter only lightly touched on here.—I do not doubt that a great many other meanings of this particle could be added to these, if it were my business to examine it in its full range and consider it in every place it is found. If one did that, I doubt whether it would deserve, in all the ways it is used, the title discretive that grammarians give it. But I do not intend a full explanation of this sort of sign here.

The instances I have given of this one may prompt us to reflect on the use and force of such signs in language. They may lead us to contemplate the various actions of our minds in discoursing, which the mind has found a way to indicate to others by these particles. Some of these particles always, and others in certain constructions, contain within them the sense of a whole sentence.

ABSTRACT AND CONCRETE TERMS

No two abstract terms can be affirmed of each other, and substances have almost no abstract names.

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3.8.1 *Abstract terms not predicable one of another, and why.*—The ordinary words of language, and our common use of them, would have given us light into the nature of our ideas, if they had been but considered with attention. The mind, as has been shown, has a power to abstract its ideas, and so they become essences, general essences, whereby the sorts of things are distinguished. Now each abstract idea being distinct, so that of any two the one can never be the other, the mind will, by its intuitive knowledge, perceive their difference; and therefore in propositions no two whole ideas can ever be affirmed one of another.

This we see in the common use of language, which permits not any two abstract words, or

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Abstract terms not predicable of one another, and why.—If the ordinary words of language, and our common use of them, had only been considered with attention, they would have shed light on the nature of our ideas. The mind, as has been shown, has a power to abstract its ideas, and so they become essences, general essences, by which the sorts of things are distinguished. Now each abstract idea is distinct, so that of any two the one can never be the other, and the mind will perceive their difference by its intuitive knowledge. Therefore in propositions no two whole ideas can ever be affirmed of one another.

We see this in the common use of language, which does not allow any two abstract words, or names

31 Probably the Hebrew prefix vav (ו), usually "and," which has a great many senses.

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names of abstract ideas, to be affirmed one of another. For how near of kin soever they may seem to be, and how certain soever it is, that man is an animal, or rational, or white, yet every one at first hearing perceives the falsehood of these propositions; humanity is animality, or rationality, or whiteness: and this is as evident as any of the most allowed maxims.

All our affirmations then are only inconcrete, which is the affirming, not one abstract idea to be another, but one abstract idea to be joined to another; which abstract ideas, in substances, may be of any sort; in all the rest, are little else but of relations; and in substances, the most frequent are of powers; *v. g.* "a man is white," signifies, that the thing that has the essence of a man, has also in it the essence of whiteness.

which is nothing but a power to produce the idea of whiteness in one, whose eyes can discover ordinary objects; or, "a man is rational," signifies that the same thing that hath the essence of a man, hath also in it the essence of rationality, *i. e.* a power of reasoning.

3.8.2 *They show the difference of our ideas.*—This distinction of names shows us also the difference of our ideas: for if we observe them, we shall find that our simple ideas have all abstract as well as concrete names; the one whereof is (to speak the language of grammarians) a substantive, the other an adjective; as whiteness, white; sweetness, sweet. The like also holds in our ideas of modes and relations, as justice, just; equality, equal; only with this difference, that some of the concrete names of relations, among men, chiefly are substantives; as paternitas, pater; whereof it were easy to render a reason. But as to our ideas of substances, we have very few or no abstract names at all.

For though the schools have introduced animalitas, humanitas, corporeitas, and some others; yet they hold no proportion with that infinite number of names of substances, to which they never were ridiculous enough to attempt the coining of abstract ones; and those few that the schools forged, and put into the mouths of their scholars, could never yet get admittance into

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of abstract ideas, to be affirmed of one another. It is certain that man is an animal, or rational, or white. Yet however closely related these may seem, everyone perceives at first hearing that these propositions are false: humanity is animality, or rationality, or whiteness. And this is as evident as any of the most accepted maxims.

All our affirmations, then, are only in the concrete. That is, they affirm not that one abstract idea is another, but that one abstract idea is joined to another. In substances these abstract ideas may be of any sort, and the most frequent are powers; in everything else they are little more than relations. For example, “a man is white” signifies that the thing that has the essence of a man also has in it the essence of whiteness,

which is nothing but a power to produce the idea of whiteness in someone whose eyes can discern ordinary objects. Or again, “a man is rational” signifies that the same thing that has the essence of a man also has in it the essence of rationality, that is, a power of reasoning.

They show the difference of our ideas.—This distinction of names also shows us the difference of our ideas. If we observe them, we shall find that our simple ideas all have abstract as well as concrete names. To speak the language of grammarians, one is a substantive and the other an adjective: as whiteness, white; sweetness, sweet. The same holds in our ideas of modes and relations, as justice, just; equality, equal. There is only this difference: some concrete names of relations, chiefly those among men, are substantives, as paternitas, pater. It would be easy to give a reason for this. But for our ideas of substances we have very few abstract names, or none at all.[32]

The schools have introduced animalitas, humanitas, corporeitas, and a few others. But these bear no proportion to the infinite number of names of substances, and they were never ridiculous enough to try coining abstract names for all of them. And the few that the schools forged and put into the mouths of their students have never gained admittance into common use or won the license of public approval.[33]

32 Paternitas and pater are Latin for “fatherhood” and “father.”

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common use, or obtain the license of public approbation.

Which seems to me at least to intimate the confession of all mankind, that they have no ideas of the real essences of substances, since they have not names for such ideas; which no doubt they would have had, had not their consciousness to themselves of their ignorance of them kept them from so idle an attempt. And therefore, though they had ideas enough to distinguish gold from a stone, and metal from wood; yet they but timorously ventured on such terms, as aurietas and saxietas, metallietas and lignietas, or the like names, which should pretend to signify the real essences of those substances, whereof they knew they had no ideas.

And indeed it was only the doctrine of substantial forms, and the confidence of mistaken pretenders to a knowledge that they had not, which first coined, and then introduced animalitas, and humanitas, and the like; which yet went very little farther than their own schools, and could never get to be current among understanding men. Indeed, humanitas was a word familiar among the Romans, but in a far different sense, and stood not for the abstract essence of any substance; but was the abstracted name of a mode, and its concrete, humanus, not homo.

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This seems to me, at least, to imply an admission by all mankind that they have no ideas of the real essences of substances, since they have no names for such ideas. They would no doubt have had such names if their consciousness of their own ignorance had not kept them from so idle an attempt. So although they had ideas enough to distinguish gold from a stone, and metal from wood, they ventured only timidly on terms such as aurietas and saxietas, metallietas and lignietas, or similar names. These would claim to signify the real essences of those substances, of which they knew they had no ideas.[34]

And indeed it was only the doctrine of substantial forms, and the confidence of misguided pretenders to a knowledge they did not have, that first coined animalitas, humanitas, and the like, and then brought them into use. Even these went very little beyond their own schools and never became current among people of understanding. It is true that humanitas was a familiar word among the Romans, but in a far different sense. It did not stand for the abstract essence of any substance. It was the abstract name of a mode, and its concrete was humanus, not homo.[35]

THE IMPERFECTION OF WORDS

Words serve for recording and communicating thoughts, and their meanings become doubtful for four reasons.

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3.9.1 *Words are used for recording and communicating our thoughts.*—From what has been said in the foregoing chapters, it is easy to perceive what imperfection there is in language, and how the very nature of words makes it almost unavoidable for many of them to be doubtful and uncertain in their significations. To examine the perfection or imperfection of words it is necessary first to consider their use and end: for as they are more or less fitted to attain that, so are they more or less perfect. We have, in the former part of this

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Words are used for recording and communicating our thoughts.—From what has been said in the preceding chapters, it is easy to see how imperfect language is. The very nature of words makes it almost unavoidable that many of them should be doubtful and uncertain in their meanings. To examine the perfection or imperfection of words, we must first consider their use and purpose, for they are more or less perfect as they are more or less fit to achieve it. In the earlier part of this discourse we have often had occasion to mention a double use of words.

33 Latin for "animality," "humanity," and "corporeity" (bodiliness).
34 Mock-Latin coinages meaning "goldness," "stoneness," "metalness," and "woodness."
35 For the Romans humanitas meant humane feeling or refined culture. Humanus means "humane" or "human"; homo means "a man."

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discourse, often upon occasion mentioned a double use of words.

First, one for the recording of our own thoughts.

Secondly, the other for the communicating of our thoughts to others.

3.9.2 *Any words will serve for recording.*—As to the first of these, for the recording our own thoughts for the help of our own memories, whereby, as it were, we talk to ourselves, any words will serve the turn. For since sounds are voluntary and indifferent signs of any ideas, a man may use what words he pleases, to signify his own ideas to himself; and there will be no imperfection in them, if he constantly use the same sign for the same idea, for then he cannot fail of having his meaning understood, wherein consists the right use and perfection of language.

3.9.3 *Communication by words civil or philosophical.*—As to communication of words, that too has a double use.

I. Civil.

II. Philosophical.

First, by their civil use, I mean such a communication of thoughts and ideas by words, as may serve for the upholding common conversation and commerce, about the ordinary affairs and conveniences of civil life, in the societies of men one among another.

Secondly, by the philosophical use of words, I mean such a use of them as may serve to convey the precise notions of things, and to express, in general propositions, certain and undoubted truths, which the mind may rest upon, and be satisfied with, in its search after true knowledge. These two uses are very distinct; and a great deal less exactness will serve in the one than in the other, as we shall see in what follows.

3.9.4 *The imperfection of words in the doubtfulness of their signification.*—The chief end of language in communication being to be understood, words serve not well for that end, neither in civil nor philosophical discourse, when any word does not excite in the hearer the same idea which it stands for in the mind of the speaker.

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First, recording our own thoughts.

Second, communicating our thoughts to others.

Any words will serve for recording.—Take the first of these: recording our own thoughts to help our own memories, by which we, so to speak, talk to ourselves. For this any words will do. Since sounds are voluntary and indifferent signs of any ideas, a person may use whatever words he likes to signify his own ideas to himself. There will be no imperfection in them as long as he consistently uses the same sign for the same idea, for then he cannot fail to have his meaning understood. That is what the right use and perfection of language consists in.

Communication by words, civil or philosophical.—As for communication by words, that too has a double use:

I. Civil.

II. Philosophical.

First, by their civil use I mean the kind of communication of thoughts and ideas by words that serves to keep up ordinary conversation and dealings about the everyday business and conveniences of civil life, among people living together in society.

Second, by the philosophical use of words I mean the kind of use that serves to convey the precise notions of things, and to express certain and undoubted truths in general propositions that the mind can rest on and be satisfied with in its search for true knowledge. These two uses are quite distinct, and much less exactness will do in the one than in the other, as we shall see in what follows.

The imperfection of words lies in the doubtfulness of their meaning.—The chief purpose of language in communication is to be understood. So words do not serve that purpose well, in either civil or philosophical discourse, when a word does not arouse in the hearer the same idea that it stands for in the speaker's mind.

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Now since sounds have no natural connexion with our ideas, but have all their signification from the arbitrary imposition of men, the doubtfulness and uncertainty of their signification, which is the imperfection we here are speaking of, has its cause more in the ideas they stand for, than in any incapacity there is in one sound more than in another, to signify any idea: for in that regard they are all equally perfect.

That then which makes doubtfulness and uncertainty in the signification of some more than other words, is the difference of ideas they stand for.

3.9.5 *Causes of their imperfection.*—Words having naturally no signification, the idea which each stands for must be learned and retained by those who would exchange thoughts, and hold intelligible discourse with others in any language. But this is hardest to be done where,

First, the ideas they stand for are very complex, and made up of a great number of ideas put together.

Secondly, where the ideas they stand for have no certain connexion in nature; and so no settled standard, any where in nature existing, to rectify and adjust them by.

Thirdly, when the signification of the word is referred to a standard, which standard is not easy to be known.

Fourthly, where the signification of the word, and the real essence of the thing, are not exactly the same.

These are difficulties that attend the signification of several words that are intelligible. Those which are not intelligible at all, such as names standing for any simple ideas, which another has not organs or faculties to attain,-as the names of colours to a blind man, or sounds to a deaf man,-need not here be mentioned.

In all these cases we shall find an imperfection in words, which I shall more at large explain, in their particular application to our several sorts of ideas; for if we examine them, we shall find that the names of mixed modes are most liable to

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Now sounds have no natural connection with our ideas. They get all their meaning from the arbitrary imposition of human beings. So the doubtfulness and uncertainty of their meaning, which is the imperfection we are talking about here, has its cause more in the ideas they stand for than in any greater incapacity in one sound than in another to signify an idea. In that respect they are all equally perfect.

What makes some words more doubtful and uncertain in meaning than others, then, is the difference in the ideas they stand for.

Causes of their imperfection.—Since words have no meaning by nature, the idea each one stands for has to be learned and remembered by anyone who wants to exchange thoughts and hold intelligible conversation with others in any language. But this is hardest to do in the following cases:

First, where the ideas they stand for are very complex, made up of a great number of ideas put together.

Second, where the ideas they stand for have no fixed connection in nature, and so no settled standard existing anywhere in nature by which to correct and adjust them.

Third, where the meaning of the word is referred to a standard that is not easy to know.

Fourth, where the meaning of the word and the real essence of the thing are not exactly the same.

These are difficulties that attend the meaning of various words that are intelligible. Words that are not intelligible at all need not be mentioned here. Such are names standing for simple ideas that someone lacks the organs or faculties to acquire, like the names of colors to a blind man, or of sounds to a deaf man.

In all these cases we shall find an imperfection in words, which I will explain more fully as it applies to our several sorts of ideas. If we examine them, we shall find that the names of mixed modes are most liable to doubtfulness and imperfection for

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doubtfulness and imperfection, for the two first of these reasons; and the names of substances chiefly for the two latter.

3.9.6 *The names of mixed modes doubtful.*—First, the names of mixed modes are many of them liable to great uncertainty and obscurity in their signification.

First, because the ideas they stand for are so complex.—I. Because of that great composition these complex ideas are often made up of. To make words serviceable to the end of communication, it is necessary (as has been said) that they excite in the hearer exactly the same idea they stand for in the mind of the speaker. Without this, men fill one another's heads with noise and sounds; but convey not thereby their thoughts, and lay not before one another their ideas, which is the end of discourse and language.

But when a word stands for a very complex idea that is compounded and decompounded, it is not easy for men to form and retain that idea so exactly as to make the name in common use stand for the same precise idea, without any the least variation. Hence it comes to pass, that men's names of very compound ideas, such as for the most part are moral words, have seldom, in two different men, the same precise signification; since one man's complex idea seldom agrees with another's, and often differs from his own, from that which he had yesterday, or will have tomorrow.

3.9.7 *Secondly, because they have no standards.*—II. Because the names of mixed modes, for the most part, want standards in nature, whereby men may rectify and adjust their significations; therefore they are very various and doubtful. They are assemblages of ideas put together at the pleasure of the mind, pursuing its own ends of discourse, and suited to its own notions; whereby it designs not to copy any thing really existing, but to denominate and rank things, as they come to agree with those archetypes or forms it has made.

He that first brought the word sham, or wheedle, or banter, in use, put together, as he thought fit, those ideas he made it stand for; and as it is with any new names of modes, that are now brought into any language, so it was with the old ones, when they were first made use of. Names

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the first two of these reasons, and the names of substances chiefly for the last two.

The names of mixed modes are doubtful.—First, many names of mixed modes are liable to great uncertainty and obscurity in their meaning.

First, because the ideas they stand for are so complex.—I. This is because of the great number of parts these complex ideas are often made of. For words to serve the purpose of communication, they must (as has been said) arouse in the hearer exactly the same idea they stand for in the speaker's mind. Without this, people fill one another's heads with noise and sounds, but they do not convey their thoughts or lay their ideas before one another, which is the purpose of discourse and language.

But when a word stands for a very complex idea, compounded and compounded again, it is not easy for people to form and retain that idea exactly enough for the name, in common use, to stand for the same precise idea without the slightest variation. That is why people's names for very compound ideas, as moral words mostly are, seldom have the same precise meaning in two different people. One person's complex idea seldom agrees with another's, and it often differs even from his own: from the one he had yesterday, or will have tomorrow.

Second, because they have no standards.—II. The names of mixed modes mostly lack standards in nature by which people might correct and adjust their meanings, and for that reason they are very variable and doubtful. They are collections of ideas put together as the mind pleases, pursuing its own purposes in discourse and fitted to its own notions. In making them the mind does not aim to copy anything that really exists. It aims to name and classify things according to whether they agree with the archetypes or forms it has made.

Whoever first brought the word "sham," or "wheedle," or "banter" into use put together, as he saw fit, the ideas he made it stand for. As it is with any new names of modes now being brought into a language, so it was with the old ones when they were first used. Names that stand for collections of

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therefore that stand for collections of ideas which the mind makes at pleasure, must needs be of doubtful signification, when such collections are nowhere to be found constantly united in nature, nor any patterns to be shown whereby men may adjust them. What the word murder, or sacrilege, &c.

signifies, can never be known from things themselves: there be many of the parts of those complex ideas which are not visible in the action itself; the intention of the mind, or the relation of holy things, which make a part of murder or sacrilege, have no necessary connexion with the outward and visible action of him that commits either: and the pulling the trigger of the gun, with which the murder is committed, and is all the action that perhaps is visible, has no natural connexion with those other ideas that make up the complex one, named murder.

They have their union and combination only from the understanding, which unites them under one name: but uniting them without any rule or pattern, it cannot be but that the signification of the name that stands for such voluntary collections should be often various in the minds of different men, who have scarce any standing rule to regulate themselves and their notions by, in such arbitrary ideas.

3.9.8 *Propriety not a sufficient remedy.*—It is true, common use, that is the rule of propriety, may be supposed here to afford some aid, to settle the signification of language; and it cannot be denied but that in some measure it does.

Common use regulates the meaning of words pretty well for common conversation; but nobody having an authority to establish the precise signification of words, nor determine to what ideas any one shall annex them, common use is not sufficient to adjust them to philosophical discourses; there being scarce any name of any very complex idea (to say nothing of others) which in common use has not a great latitude, and which, keeping within the bounds of propriety, may not be made the sign of far different ideas. Besides, the rule and measure of propriety itself being nowhere established, it is

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ideas the mind makes at pleasure must therefore be doubtful in meaning. Such collections are nowhere found constantly united in nature, and no patterns can be shown by which people might adjust them. What the word "murder" or "sacrilege," etc.,[36]

signifies can never be learned from the things themselves. Many of the parts of those complex ideas are not visible in the action itself. The intention of the mind, or the relation to holy things, which makes up part of murder or sacrilege, has no necessary connection with the outward, visible action of the person who commits either one. Pulling the trigger of the gun with which the murder is committed is perhaps the only part of the action that is visible, and it has no natural connection with the other ideas that make up the complex idea named "murder."

These ideas get their union and combination only from the understanding, which unites them under one name. But since it unites them without any rule or pattern, the meaning of a name standing for such voluntary collections is bound to vary often in the minds of different people, who have hardly any fixed rule to guide themselves and their notions by in such arbitrary ideas.

Propriety is not a sufficient remedy.—It is true that common use, which is the rule of propriety, may be supposed to give some help here in settling the meaning of language. It cannot be denied that to some extent it does.

Common use regulates the meaning of words fairly well for ordinary conversation. But nobody has the authority to establish the precise meaning of words, or to decide what ideas anyone shall attach to them, and so common use is not enough to adjust them for philosophical discourse. There is hardly any name of a very complex idea (to say nothing of others) that does not have great latitude in common use, and that could not be made the sign of very different ideas while staying within the bounds of propriety. Besides, since the rule and measure of propriety itself is established nowhere, it is often a matter of dispute whether

36 "Sham," "wheedle," and "banter" were fashionable new coinages of the later seventeenth century.

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often matter of dispute whether this or that way of using a word be propriety of speech or no.

From all which it is evident, that the names of such kind of very complex ideas are naturally liable to this imperfection, to be of doubtful and uncertain signification; and even in men that have a mind to understand one another, do not always stand for the same idea in speaker and hearer. Though the names glory and gratitude be the same in every man's mouth through a whole country, yet the complex collective idea, which every one thinks on, or intends by that name, is apparently very different in men using the same language.

3.9.9 *The way of learning these names contributes also to their doubtfulness.*—The way also wherein the names of mixed modes are ordinarily learned, does not a little contribute to the doubtfulness of their signification. For if we will observe how children learn languages, we shall find that to make them understand what the names of simple ideas, or substances, stand for, people ordinarily show them the thing whereof they would have them have the idea; and then repeat to them the name that stands for it, as white, sweet, milk, sugar, cat, dog.

But as for mixed modes, especially the most material of them, moral words, the sounds are usually learned first; and then to know what complex ideas they stand for, they are either beholden to the explication of others, or (which happens for the most part) are left to their own observation and industry; which being little laid out in the search of the true and precise meaning of names, these moral words are in most men's mouths little more than bare sounds; or when they have any, it is for the most part but a very loose and undetermined, and consequently obscure and confused signification.

And even those themselves, who have with more attention settled their notions, do yet hardly avoid the inconvenience, to have them stand for complex ideas, different from those which other, even intelligent and studious men, make them the signs of. Where shall one find any, either controversial debate, or familiar discourse, concerning honour, faith, grace, religion, church, &c. wherein it is not easy to observe the different notions men have of them? which is nothing but this, that they are not agreed in the signification

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this or that way of using a word is proper speech or not.

From all this it is evident that the names of such very complex ideas are naturally liable to this imperfection of being doubtful and uncertain in meaning. Even among people who want to understand one another, they do not always stand for the same idea in speaker and hearer. The names "glory" and "gratitude" are the same in everyone's mouth throughout a whole country. Yet the complex, collective idea that each person thinks of or means by that name is plainly very different among people using the same language.

The way these names are learned also adds to their doubtfulness.—The way in which the names of mixed modes are usually learned also contributes a good deal to the doubtfulness of their meaning. If we observe how children learn languages, we find that people usually teach them what the names of simple ideas or substances stand for by showing them the thing they want them to have the idea of, and then repeating to them the name that stands for it: "white," "sweet," "milk," "sugar," "cat," "dog."

But with mixed modes, especially the most important of them, moral words, the sounds are usually learned first. Then, to know what complex ideas they stand for, children must either depend on others' explanations or (as mostly happens) are left to their own observation and effort. Little of that effort is spent in searching for the true and precise meaning of names, and so these moral words are, in most people's mouths, little more than bare sounds. When they do have some meaning, it is mostly a very loose and indeterminate one, and therefore obscure and confused.

Even those who have settled their notions with more care can hardly avoid the inconvenience of having them stand for complex ideas different from those that other people, even intelligent and studious ones, make them the signs of. Where will you find any debate, controversial or casual, about honor, faith, grace, religion, church, and so on, in which it is not easy to see the different notions people have of them? This simply means that they do not agree on the meaning of those words, and

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of those words, nor have in their minds the same complex ideas which they make them stand for: and so all the contests that follow thereupon are only about the meaning of a sound.

And hence we see, that in the interpretation of laws, whether divine or human, there is no end; comments beget comments, and explications make new matter for explications; and of limiting, distinguishing, varying the signification of these moral words, there is no end. These ideas of men's making are, by men still having the same power, multiplied *in infinitum*. Many a man who was pretty well satisfied of the meaning of a text of scripture, or clause in the code, at first reading, has by consulting commentators quite lost the sense of it, and by those elucidations given rise or increase to his doubts, and drawn obscurity upon the place.

I say not this, that I think commentaries needless; but to show how uncertain the names of mixed modes naturally are, even in the mouths of those who had both the intention and the faculty of speaking as clearly as language was capable to express their thoughts.

3.9.10 *Hence unavoidable obscurity in ancient authors.*— What obscurity this has unavoidably brought upon the writings of men, who have lived in remote ages and in different countries, it will be needless to take notice; since the numerous volumes of learned men, employing their thoughts that way, are proofs more than enough to show what attention, study, sagacity, and reasoning are required, to find out the true meaning of ancient authors.

But there being no writings we have any great concernment to be very solicitous about the meaning of, but those that contain either truths we are required to believe, or laws we are to obey, and draw inconveniences on us when we mistake or transgress; we may be less anxious about the sense of other authors, who writing but their own opinions, we are under no greater necessity to know them, than they to know ours.

Our good or evil depending not on their decrees, we may safely be ignorant of their notions: and therefore, in the reading of them, if they do not use their words with a due clearness and perspicuity, we may lay them aside, and, without

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do not have in their minds the same complex ideas that they make them stand for. So all the disputes that follow are only about the meaning of a sound.

Hence we see that there is no end to the interpretation of laws, whether divine or human. Comments beget comments, explanations create new material for explanations, and there is no end to limiting, distinguishing, and varying the meaning of these moral words. These ideas of human making are multiplied *in infinitum* by people who still have the same power to make them. Many a man who was fairly satisfied about the meaning of a text of scripture or a clause in the law code on first reading has completely lost its sense by consulting commentators. Their elucidations have raised his doubts or increased them, and have cast obscurity over the passage.

I do not say this because I think commentaries are unnecessary. I say it to show how uncertain the names of mixed modes naturally are, even in the mouths of those who had both the intention and the ability to speak as clearly as language could express their thoughts.

Hence the unavoidable obscurity in ancient authors.— There is no need to point out what obscurity this has unavoidably brought on the writings of people who lived in remote ages and in other countries. The many volumes of learned men who have devoted their thought to that task are more than enough proof of how much attention, study, sagacity, and reasoning it takes to find out the true meaning of ancient authors.

But the only writings whose meaning we have any great reason to be anxious about are those that contain either truths we are required to believe or laws we must obey, which bring trouble on us when we misunderstand or break them. We can be less anxious about the sense of other authors. Since they write only their own opinions, we are under no greater need to know them than they are to know ours.

Our good or harm does not depend on their decrees, so we can safely be ignorant of their notions. When we read them, then, if they do not use their words with proper clarity and perspicuity,

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any injury done them, resolve thus with ourselves:

"Si non vis intelligi, debes negligi."

3.9.11 *Names of substances of doubtful signification.*—If the signification of the names of mixed modes are uncertain, because there be no real standards existing in nature to which those ideas are referred, and by which they may be adjusted, the names of substances are of a doubtful signification, for a contrary reason, viz. because the ideas they stand for are supposed conformable to the reality of things, and are referred to standards made by nature. In our ideas of substances, we have not the liberty, as in mixed modes, to frame what combinations we think fit, to be the characteristical notes to rank and denominate things by.

In these we must follow nature, suit our complex ideas to real existences, and regulate the signification of their names by the things themselves, if we will have our names to be the signs of them, and stand for them. Here, it is true, we have patterns to follow, but patterns that will make the signification of their names very uncertain; for names must be of a very unsteady and various meaning, if the ideas they stand for be referred to standards without us, that either cannot be known at all, or can be known but imperfectly and uncertainly.

3.9.12 *Names of substances referred, first, to real essences that cannot be known.*—The names of substances have, as has been shown, a double reference in their ordinary use.

First, sometimes they are made to stand for, and so their signification is supposed to agree to, the real constitution of things, from which all their properties flow, and in which they all centre. But this real constitution, (or as it is apt to be called) essence, being utterly unknown to us, any sound that is put to stand for it must be very uncertain in its application; and it will be impossible to know what things are, or ought to be, called a horse, or antimony, when those words are put for real essences that we have no ideas of at all.

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we may put them aside and, without doing them any wrong, resolve to ourselves:

"*Si non vis intelligi, debes negligi*": if you do not want to be understood, you deserve to be ignored.[37]

Names of substances are of doubtful meaning.—The names of mixed modes are uncertain in meaning because there are no real standards existing in nature to which those ideas are referred and by which they can be adjusted. The names of substances are doubtful in meaning for the opposite reason: namely, because the ideas they stand for are supposed to conform to the reality of things and are referred to standards made by nature. With our ideas of substances we do not have the freedom we have with mixed modes to frame whatever combinations we see fit as the distinguishing marks by which to classify and name things.

Here we must follow nature, fit our complex ideas to real existences, and regulate the meaning of their names by the things themselves, if we want our names to be signs of them and stand for them. Here, it is true, we have patterns to follow. But they are patterns that will make the meaning of the names very uncertain. Names must have a very unsteady and variable meaning if the ideas they stand for are referred to standards outside us that either cannot be known at all or can be known only imperfectly and uncertainly.

Names of substances are referred, first, to real essences, which cannot be known.—The names of substances, as has been shown, have a double reference in their ordinary use.

First, they are sometimes made to stand for the real constitution of things, from which all their properties flow and in which they all center, and so their meaning is supposed to correspond to it. But this real constitution (or essence, as it tends to be called) is utterly unknown to us, and so any sound put to stand for it must be very uncertain in its application. It will be impossible to know what things are, or ought to be, called "horse" or "antimony" when those words are put for real essences of which we have no idea at all.

37 A proverbial Latin tag.

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And therefore, in this supposition, the names of substances being referred to standards that cannot be known, their significations can never be adjusted and established by those standards.

3.9.13 *Secondly, to coexisting qualities, which are known but imperfectly.*—The simple ideas that are found to coexist in substances being that which their names immediately signify, these, as united in the several sorts of things, are the proper standards to which their names are referred, and by which their significations may be best rectified.

But neither will these archetypes so well serve this purpose, as to leave these names without very various and uncertain significations: because these simple ideas that coexist, and are united in the same subject, being very numerous, and having all an equal right to go into the complex specific idea, which the specific name is to stand for; men, though they propose to themselves the very same subject to consider, yet frame very different ideas about it; and so the name they use for it unavoidably comes to have, in several men, very different significations.

The simple qualities which make up the complex ideas, being most of them powers, in relation to changes, which they are apt to make in, or receive from other bodies, are almost infinite. He that shall but observe what a great variety of alterations any one of the baser metals is apt to receive from the different application only of fire; and how much a greater number of changes any of them will receive in the hands of a chemist, by the application of other bodies; will not think it strange that I count the properties of any sort of bodies not easy to be collected, and completely known by the ways of inquiry, which our faculties are capable of.

They being therefore at least so many that no man can know the precise and definite number, they are differently discovered by different men, according to their various skill, attention, and ways of handling; who therefore cannot choose but have different ideas of the same substance, and therefore make the signification of its common name very various and uncertain. For the complex ideas of substances being made up of such simple ones as are supposed to coexist in nature, every one has a right to put into his complex ideas those qualities he has found to be

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So on this supposition, since the names of substances are referred to standards that cannot be known, their meanings can never be adjusted and established by those standards.

Second, to coexisting qualities, which are known only imperfectly.—What the names of substances immediately signify are the simple ideas found to coexist in substances. So these ideas, as united in the various sorts of things, are the proper standards to which the names are referred and by which their meanings can best be corrected.

But not even these archetypes serve this purpose well enough to keep these names from having very variable and uncertain meanings. The simple ideas that coexist and are united in the same subject are very numerous, and all have an equal right to go into the complex specific idea that the name of the species is to stand for. So people frame very different ideas of the very same subject, even when they set themselves to consider it; and the name they use for it unavoidably comes to have very different meanings in different people.

The simple qualities that make up the complex ideas are mostly powers, relating to the changes they are apt to make in other bodies or to receive from them, and they are almost infinite. Consider what a great variety of alterations any of the base metals is apt to undergo merely from different applications of fire, and how many more changes any of them will undergo in the hands of a chemist when other bodies are applied to it. Anyone who observes this will not think it strange that I consider the properties of any sort of body hard to collect and to know completely by the methods of inquiry our faculties are capable of.

These properties are at least so many that no one can know their precise and definite number, and different people discover different ones, according to their varying skill, attention, and ways of handling things. These people therefore cannot help having different ideas of the same substance, and so they make the meaning of its common name very variable and uncertain. The complex ideas of substances are made up of simple ideas that are supposed to coexist in nature, and so everyone has a right to put into his complex idea the qualities he has found united together. Thus in the sub-

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united together. For though in the substance of gold one satisfied himself with colour and weight, yet another thinks solubility in aq.

regia as necessary to be joined with that colour in his idea of gold as any one does its fusibility; solubility in aq. regia being a quality as constantly joined with its colour and weight, as fusibility, or any other; others put into it ductility or fixedness, &c. as they have been taught by tradition or experience. Who of all these has established the right signification of the word gold? or who shall be the judge to determine?

Each has its standard in nature, which he appeals to; and with reason thinks he has the same right to put into his complex idea, signified by the word gold, those qualities which upon trial he has found united, as another, who has not so well examined, has to leave them out; or a third, who has made other trials, has to put in others. For the union in nature of these qualities being the true ground of their union in one complex idea, who can say one of them has more reason to be put in, or left out, than another?

From hence it will always unavoidably follow, that the complex ideas of substances, in men using the same name for them, will be very various; and so the significations of those names very uncertain.

3.9.14 *Thirdly, to coexisting qualities which are known but imperfectly.*—Besides, there is scarce any particular thing existing, which, in some of it simple ideas, does not communicate with a greater, and in others a less number of particular beings: who shall determine, in this case, which are those that are to make up the precise collection that is to be signified by the specific name; or can, with any just authority, prescribe which obvious or common qualities are to be left out; or which more secret, or more particular are to be put into the signification of the name of any substance?

All which together seldom or never fail to produce that various and doubtful signification in the names of substances, which causes such uncertainty, disputes, or mistakes, when we come to a philosophical use of them.

3.9.15 *With this imperfection, they may serve for civil, but not well for philosophical use.*—It is true, as to civil

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stance gold one person contents himself with color and weight, while another thinks that solubility in aqua regia

must be joined with that color in his idea of gold as necessarily as anyone thinks its fusibility must be. After all, solubility in aqua regia is a quality as constantly joined with its color and weight as fusibility or any other. Others put ductility or fixedness, etc., into it, as they have been taught by tradition or experience. Which of all these people has established the right meaning of the word "gold"? Or who is to be the judge that decides?

Each has his standard in nature, which he appeals to. He reasonably thinks he has as much right to put into his complex idea signified by the word "gold" the qualities he has found united on trial, as another who has not examined so well has to leave them out, or a third who has made other trials has to put in others. The union of these qualities in nature is the true ground of their union in one complex idea. So who can say that one of them has more reason to be put in or left out than another?

From this it will always unavoidably follow that the complex ideas of substances will vary a great deal among people who use the same name for them, and so the meanings of those names will be very uncertain.

Third, to coexisting qualities, which are known only imperfectly.—Besides, there is hardly any particular existing thing that does not share some of its simple ideas with a larger number of particular beings, and others with a smaller number. Who, in that case, is to determine which ones make up the precise collection signified by the name of the species? And who can prescribe, with any just authority, which obvious or common qualities are to be left out of the meaning of the name of any substance, or which more hidden or more particular ones are to be put into it?

All these things together seldom or never fail to produce that variable and doubtful meaning in the names of substances which causes such uncertainty, disputes, and mistakes when we come to use them philosophically.

With this imperfection, they may serve for civil use, but not well for philosophical use.—It is true that in

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and common conversation, the general names of substances, regulated in their ordinary signification by some obvious qualities, (as by the shape and figure in things of known seminal propagation, and in other substances, for the most part, by colour, joined with some other sensible qualities) do well enough to design the things men would be understood to speak of; and so they usually conceive well enough the substances meant by the word gold, or apple, to distinguish the one from the other.

But in philosophical inquiries and debates, where general truths are to be established, and consequences drawn from positions laid down—there the precise signification of the names of substances will be found, not only not to be well established, but also very hard to be so.

For example, he that shall make malleableness, or a certain degree of fixedness, a part of his complex idea of gold, may make propositions concerning gold, and draw consequences from them, that will truly and clearly follow from gold, taken in such a signification; but yet such as another man can never be forced to admit, nor be convinced of their truth, who makes not malleableness, or the same degree of fixedness, part of that complex idea, that the name gold, in his use of it, stands for.

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civil and ordinary conversation the general names of substances do well enough to designate the things people want to be understood to be talking about. Their ordinary meaning is regulated by some obvious qualities: by shape and figure in things known to reproduce from seed, and in other substances mostly by color joined with some other sensible qualities. And so people usually conceive the substances meant by the words "gold" or "apple" well enough to distinguish the one from the other.

But in philosophical inquiries and debates, where general truths are to be established and consequences drawn from the positions laid down, the precise meaning of the names of substances will be found not only to be poorly established, but also very hard to establish.

For example, someone who makes malleability, or a certain degree of fixedness, part of his complex idea of gold may make propositions about gold and draw consequences from them that truly and clearly follow from "gold" taken in that meaning. Yet another person who does not make malleability, or the same degree of fixedness, part of the complex idea that the name "gold" stands for in his use of it can never be forced to accept those consequences, or be convinced of their truth.

THE PHYSICIANS AND THE WORD "LIQUOR"

A dispute among physicians about fluid in the nerves turns out to be about the meaning of one word.

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3.9.16 *Instance liquor.*—This is a natural, and almost unavoidable imperfection in almost all the names of substances, in all languages whatsoever, which men will easily find, when once passing from confused or loose notions, they come to more strict and close inquiries: for then they will be convinced how doubtful and obscure those words are in their signification, which in ordinary use appeared very clear and determined. I was once in a meeting of very learned and ingenious physicians, where by chance there arose a question, whether any liquor passed through the filaments of the nerves.

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An example: liquor.—This is a natural and almost unavoidable imperfection in nearly all names of substances, in every language whatever. People will easily find it once they move from confused or loose notions to stricter and closer inquiries, for then they will be convinced how doubtful and obscure in meaning those words are that seemed very clear and definite in ordinary use. I was once at a meeting of very learned and able physicians where the question happened to arise whether any liquor passed through the filaments of the nerves.[38]

38 "Liquor" here means any liquid. The question was whether the nerves carry a fluid, the "animal spirits" of contemporary physiology.

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The debate having been managed a good while, by variety of arguments on both sides, I (who had been used to suspect that the greatest parts of disputes were more about the signification of words than a real difference in the conception of things) desired, that before they went any farther on in this dispute, they would first examine, and establish among them, what the word liquor signified.

They at first were a little surprised at the proposal; and had they been persons less ingenious, they might perhaps have taken it for a very frivolous or extravagant one; since there was no one there that thought not himself to understand very perfectly what the word liquor stood for; which I think, too, none of the most perplexed names of substances. However, they were pleased to comply with my motion; and, upon examination, found that the signification of that word was not so settled and certain as they had all imagined, but that each of them made it a sign of a different complex idea.

This made them believe that the main of their dispute was about the signification of that term; and that they differed very little in their opinions concerning some fluid and subtle matter passing through the conduits of the nerves, though it was not so easy to agree whether it was to be called liquor or no-a thing which, when considered, they thought it not worth the contending about.

3.9.17 *Instance Gold.*—How much this is the case in the greatest part of disputes that men are engaged so hotly in, I shall perhaps have an occasion in another place to take notice. Let us only here consider a little more exactly the fore-mentioned instance of the word gold, and we shall see how hard it is precisely to determine its signification. I think all agree to make it stand for a body of a certain yellow shining colour; which being the idea to which children have annexed that name, the shining yellow part of a peacock's tail is properly to them gold.

Others finding fusibility, joined with that yellow colour in certain parcels of matter, make of that combination a complex idea, to which they give the name gold, to denote a sort of substances; and so exclude from being gold all such yellow shining bodies as by fire will be reduced to ashes; and admit to be of that species, or to be

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The debate was carried on for a good while, with a variety of arguments on both sides. I had long been in the habit of suspecting that most disputes were more about the meaning of words than about a real difference in how things are conceived. So I asked that, before they went any further in this dispute, they first examine and establish among themselves what the word "liquor" meant.

At first they were a little surprised at the proposal. Had they been less intelligent people, they might perhaps have taken it for a very frivolous or eccentric one, since no one there doubted that he understood perfectly well what the word "liquor" stood for. I also think it is not one of the most perplexing names of substances. However, they were good enough to go along with my suggestion. On examination they found that the meaning of the word was not as settled and certain as they had all imagined, and that each of them made it the sign of a different complex idea.

This made them believe that the main part of their dispute was about the meaning of that term. They differed very little in their opinions about some fluid and subtle matter passing through the channels of the nerves, though it was not so easy to agree whether it should be called "liquor" or not. Once they considered it, they thought that point not worth arguing about.

An example: gold.—How far this is the case in most of the disputes people engage in so hotly, I may perhaps have occasion to point out elsewhere. Here let us just consider a little more exactly the example of the word "gold" mentioned above, and we shall see how hard it is to determine its meaning precisely. I think everyone agrees to make it stand for a body of a certain shining yellow color. That is the idea to which children have attached the name, so for them the shining yellow part of a peacock's tail is properly gold.

Others find fusibility joined with that yellow color in certain portions of matter, and they make that combination into a complex idea to which they give the name "gold," to denote a sort of substance. So they exclude from being gold all shining yellow bodies that fire reduces to ashes. They admit into that species, or include under the name "gold,"

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comprehended under that name gold, only such substances, as having that shining yellow colour, will by fire be reduced to fusion, and not to ashes.

Another, by the same reason, adds the weight; which being a quality as straightly joined with that colour as its fusibility, he thinks has the same reason to be joined in its idea, and to be signified by its name; and therefore the other made up of body, of such a colour and fusibility, to be imperfect; and so on of all the rest: wherein no one can show a reason why some of the inseparable qualities, that are always united in nature, should be put into the nominal essence, and others left out; or why the word gold, signifying that sort of body the ring on his finger is made of, should determine that sort, rather by its colour, weight, and fusibility, than by its colour, weight and solubility in aq.

regia: since the dissolving of it by that liquor is as inseparable from it as the fusion by fire; and they are both of them nothing but the relation which that substance has to two other bodies, which have a power to operate differently upon it. For by what right is it that fusibility comes to be a part of the essence signified by the word gold, and solubility but a property of it; or why is its colour part of the essence, and its malleableness but a property?

That which I mean is this: that these being all but properties depending on its real constitution, and nothing but powers, either active or passive, in reference to other bodies; no one has authority to determine the signification of the word gold (as referred to such a body existing in nature) more to one collection of ideas to be found in that body than to another: whereby the signification of that name must unavoidably be very uncertain; since, as has been said, several people observe several properties in the same substance; and, I think, I may say nobody all. And therefore we have but very imperfect descriptions of things, and words have very uncertain significations.

3.9.18 *The names of simple ideas the least doubtful.*—From what has been said, it is easy to observe what has been before remarked, viz. That the names of simple ideas are, of all others, the least liable to mistakes, and that for these reasons.

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only substances that have that shining yellow color and are melted by fire rather than reduced to ashes.

Another person, for the same reason, adds the weight. Since this quality is as closely joined with that color as its fusibility is, he thinks it has the same right to be joined in the idea and signified by the name. He therefore thinks the other idea, made up of a body with such a color and fusibility, is incomplete. And so on with all the rest. In all this no one can give a reason why some of the inseparable qualities that are always united in nature should be put into the nominal essence and others left out. Nor can anyone say why the word "gold," signifying the sort of body the ring on his finger is made of, should determine that sort by its color, weight, and fusibility rather than by its color, weight, and solubility in aqua regia

since its dissolving in that liquid is as inseparable from it as its melting in fire. Both are nothing but the relation that substance has to two other bodies which have a power to act on it in different ways. By what right, then, does fusibility come to be part of the essence signified by the word "gold," and solubility only a property of it? Or why is its color part of the essence, and its malleability only a property?

What I mean is this. These are all just properties depending on its real constitution, nothing but powers, active or passive, in relation to other bodies. So no one has the authority to fix the meaning of the word "gold" (as referred to such a body existing in nature) to one collection of ideas found in that body rather than to another. The meaning of that name must therefore unavoidably be very uncertain, since, as has been said, different people observe different properties in the same substance, and I think I may say that nobody observes them all. And so we have only very imperfect descriptions of things, and words have very uncertain meanings.

The names of simple ideas are the least doubtful.—From what has been said, it is easy to see what was remarked earlier: namely, that the names of simple ideas are, of all names, the least liable to mistakes. There are two reasons for this.

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First, because the ideas they stand for, being each but one single perception, are much easier got, and more clearly retained, than the more complex ones; and therefore are not liable to the uncertainty which usually attends those compounded ones of substances and mixed modes, in which the precise number of simple ideas, that make them up, are not easily agreed, and so readily kept in the mind: and secondly, because they are never referred to any other essence, but barely that perception they immediately signify; which reference is that which renders the signification of the names of substances naturally so perplexed, and gives occasion to so many disputes.

Men that do not perversely use their words, or on purpose set themselves to cavil, seldom mistake, in any language which they are acquainted with, the use and signification of the names of simple ideas: white and sweet, yellow and bitter, carry a very obvious meaning with them, which every one precisely comprehends, or easily perceives he is ignorant of, and seeks to be informed. But what precise collection of simple ideas modesty or frugality stand for in another's use, is not so certainly known.

And however we are apt to think we well enough know what is meant by gold or iron; yet the precise complex idea others make them the signs of, is not so certain; and I believe it is very seldom that, in speaker and hearer, they stand for exactly the same collection: which must needs produce mistakes and disputes, when they are made use of in discourses, wherein men have to do with universal propositions, and would settle in their minds universal truths, and consider the consequences that follow from them.

3.9.19 *And next to them, simple modes.*—By the same rule, the names of simple modes are, next to those of simple ideas, least liable to doubt and uncertainty, especially those of figure and number, of which men have so clear and distinct ideas. Who ever, that had a mind to understand them, mistook the ordinary meaning of seven, or a triangle? And in general the least compounded ideas in every kind have the least dubious names.

3.9.20 *The most doubtful are the names of very compounded mixed modes and substances.*—Mixed modes,

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First, the ideas they stand for are each only one single perception, and so they are much more easily acquired and more clearly retained than the more complex ones. They are not liable to the uncertainty that usually attends the compounded ideas of substances and mixed modes, where people do not easily agree on the precise number of simple ideas that make them up, or readily keep it in mind. Second, they are never referred to any other essence than simply the perception they immediately signify. It is that further reference which makes the meaning of the names of substances naturally so perplexed and gives rise to so many disputes.

People who do not use their words perversely, or deliberately set out to quibble, seldom mistake the use and meaning of the names of simple ideas in any language they know. “White” and “sweet,” “yellow” and “bitter” carry a very obvious meaning with them. Everyone either understands it precisely or easily sees that he does not know it, and seeks to be told. But what precise collection of simple ideas “modesty” or “frugality” stands for in someone else’s use is not so certainly known.

However much we tend to think we know well enough what is meant by “gold” or “iron,” the precise complex idea that others make them the signs of is not so certain. I believe it is very seldom that they stand for exactly the same collection in speaker and hearer. This must produce mistakes and disputes when they are used in discourses where people deal with universal propositions, and want to settle universal truths in their minds and consider the consequences that follow from them.

And next to them, simple modes.—By the same rule, the names of simple modes are, next to those of simple ideas, the least liable to doubt and uncertainty. This is especially true of figure and number, of which people have such clear and distinct ideas. Who that wanted to understand them ever mistook the ordinary meaning of “seven,” or “a triangle”? And in general, the least compounded ideas of every kind have the least doubtful names.

The most doubtful are the names of very compounded mixed modes and of substances.—So mixed modes

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therefore, that are made up but of a few and obvious simple ideas, have usually names of no very uncertain signification; but the same names of mixed modes, which comprehend a great number of simple ideas, are commonly of a very doubtful and undetermined meaning, as has been shown. The names of substances, being annexed to ideas that are neither the real essences nor exact representations of the patterns they are referred to, are liable yet to greater imperfection and uncertainty, especially when we come to a philosophical use of them.

3.9.21 *Why this imperfection charged upon words.*—The great disorder that happens in our names of substances, proceeding for the most part from our want of knowledge, and inability to penetrate into their real constitutions, it may probably be wondered, why I charge this as an imperfection rather upon our words than understandings. This exception has so much appearance of justice, that I think myself obliged to give a reason why I have followed this method. I must confess, then, that when I first began this discourse of the understanding, and a good while after, I had not the least thought that any consideration of words was at all necessary to it.

But when, having passed over the original and composition of our ideas, I began to examine the extent and certainty of our knowledge, I found it had so near a connexion with words, that, unless their force and manner of signification were first well observed, there could be very little said clearly and pertinently concerning knowledge; which being conversant about truth, had constantly to do with propositions; and though it terminated in things, yet it was for the most part so much by the intervention of words, that they seemed scarce separable from our general knowledge.

At least, they interpose themselves so much between our understandings and the truth, which it would contemplate and apprehend, that, like the medium through which visible objects pass, their obscurity and disorder do not seldom cast a mist before our eyes, and impose upon our understandings.

If we consider, in the fallacies men put upon themselves as well as others, and the mistakes in men's disputes and notions, how great a part is

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made up of only a few obvious simple ideas usually have names whose meaning is not very uncertain. But names of mixed modes that comprise a great number of simple ideas are commonly of very doubtful and indeterminate meaning, as has been shown. The names of substances are attached to ideas that are neither the real essences nor exact representations of the patterns they are referred to. They are therefore liable to still greater imperfection and uncertainty, especially when we come to use them philosophically.

Why this imperfection is charged to words.—The great disorder in our names of substances comes mostly from our lack of knowledge and our inability to penetrate their real constitutions. So it may well be asked why I charge this as an imperfection to our words rather than to our understandings. This objection seems so just that I think I owe a reason for proceeding as I have. I must confess, then, that when I first began this discourse on the understanding, and for a good while afterward, I had not the slightest thought that any consideration of words was at all necessary to it.

But after going through the origin and composition of our ideas, I began to examine the extent and certainty of our knowledge. I then found that it was so closely connected with words that very little could be said clearly and to the point about knowledge unless their force and way of signifying were first carefully observed. Knowledge is concerned with truth, and so it has constantly to do with propositions. And though it ends in things, it does so mostly through the intervention of words, so much so that words seemed hardly separable from our general knowledge.

At least they interpose themselves so much between our understandings and the truth that the understanding wants to contemplate and grasp that, like the medium through which visible objects pass, their obscurity and disorder quite often cast a mist before our eyes and deceive our understandings.

Consider how great a part of the fallacies people impose on themselves as well as on others, and of the mistakes in their disputes and notions, is ow-

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owing to words, and their uncertain or mistaken significations-we shall have reason to think this no small obstacle in the way to knowledge; which, I conclude, we are the more carefully to be warned of, because it has been so far from being taken notice of as an inconvenience, that the arts of improving it have been made the business of men's study, and obtained the reputation of learning and subtility, as we shall see in the following chapter.

But I am apt to imagine, that were the imperfections of language, as the instruments of knowledge, more thoroughly weighed, a great many of the controversies that make such a noise in the world, would of themselves cease; and the way to knowledge, and perhaps peace, too, lie a great deal opener than it does.

3.9.22 *This should teach us moderation, in imposing our own sense of old authors.*—Sure I am, that the signification of words, in all languages, depending very much on the thoughts, notions, and ideas of him that uses them, must unavoidably be of great uncertainty to men of the same language and country. This is so evident in the Greek authors, that he that shall peruse their writings, will find in almost every one of them a distinct language, though the same words. But when to this natural difficulty in every country there shall be added different countries and remote ages, wherein the speakers and writers had very different notions, tempers, customs, ornaments, and figures of speech, &c.

every one of which influenced the signification of their words then, though to us now they are lost and unknown; it would become us to be charitable one to another in our interpretations or misunderstanding of those ancient writings; which, though of great concernment to be understood, are liable to the unavoidable difficulties of speech, which (if we except the names of simple ideas, and some very obvious things) is not capable, without a constant defining the terms, of conveying the sense and intention of the speaker, without any manner of doubt and uncertainty to the hearer. And in discourses of religion, law, and morality, as they are matters of the highest concernment, so there will be the greatest difficulty.

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ing to words and their uncertain or mistaken meanings. If we do, we shall have reason to think this no small obstacle on the road to knowledge. I conclude that we need to be all the more carefully warned of it because, far from being noticed as a problem, the arts of increasing it have been made the business of people's study, and have won the reputation of learning and subtlety, as we shall see in the next chapter.

But I am inclined to think that if the imperfections of language, as the instrument of knowledge, were weighed more thoroughly, a great many of the controversies that make such a noise in the world would cease of themselves. The road to knowledge, and perhaps to peace as well, would lie a great deal more open than it does.

This should teach us moderation in imposing our own sense on old authors.—Of this I am sure: in every language the meaning of words depends very much on the thoughts, notions, and ideas of the person using them, and so it must unavoidably be very uncertain even to people of the same language and country. This is so evident in the Greek authors that anyone who reads their writings will find in almost every one of them a distinct language, though the words are the same. But to this natural difficulty within every country we must add different countries and remote ages, in which speakers and writers had very different notions, temperaments, customs, ornaments, figures of speech, and so on,

each of which influenced the meaning of their words then, though they are now lost and unknown to us. When all this is added, it would become us to be charitable to one another in our interpretations or misunderstandings of those ancient writings. It matters greatly that they be understood, but they are subject to the unavoidable difficulties of speech. Apart from the names of simple ideas and some very obvious things, speech cannot convey the speaker's sense and intention to the hearer without any doubt and uncertainty, unless the terms are constantly defined. And in discourses on religion, law, and morality, just as the matters are of the highest importance, so the difficulty will be greatest.

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The volumes of interpreters and commentators on the old and new Testaments are but too manifest proofs of this. Though every thing said in the text be infallibly true, yet the reader may be, nay cannot choose but be, very fallible in the understanding of it.

Nor is it to be wondered, that the will of God, when clothed in words, should be liable to that doubt and uncertainty which unavoidably attends that sort of conveyance; when even his Son, whilst clothed in flesh, was subject to all the frailties and inconveniences of human nature, sin excepted: and we ought to magnify his goodness, that he hath spread before all the world such legible characters of his works and providence, and given all mankind so sufficient a light of reason, that they to whom this written word never came, could not (whenever they set themselves to search) either doubt of the being of a God, or of the obedience due to him.

Since then the precepts of natural religion are plain, and very intelligible to all mankind, and seldom come to be controverted; and other revealed truths, which are conveyed to us by books and languages, are liable to the common and natural obscurities and difficulties incident to words; methinks it would become us to be more careful and diligent in observing the former, and less magisterial, positive, and imperious in imposing our own sense and interpretations of the latter.

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The volumes of interpreters and commentators on the Old and New Testaments are all too plain proof of this. Though everything said in the text is infallibly true, the reader may be—indeed cannot help being—very fallible in understanding it.

Nor should we wonder that the will of God, when clothed in words, should be liable to the doubt and uncertainty that unavoidably attends that kind of conveyance, when even his Son, while clothed in flesh, was subject to all the frailties and inconveniences of human nature, sin excepted. And we ought to praise his goodness. He has spread before the whole world such legible characters of his works and providence, and given all mankind so sufficient a light of reason, that those whom this written word never reached could not (whenever they set themselves to search) doubt either the existence of a God or the obedience due to him.

The precepts of natural religion, then, are plain and quite intelligible to all mankind, and are seldom disputed. Other revealed truths, conveyed to us by books and languages, are liable to the common and natural obscurities and difficulties that come with words. So it seems to me it would become us to be more careful and diligent in observing the former, and less magisterial, dogmatic, and domineering in imposing our own sense and interpretations of the latter.

THE ABUSE OF WORDS

Locke lists willful faults: empty words, unsteady use, affected obscurity, taking words for things, and more.

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3.10.1 *Abuse of words.*—Besides the imperfection that is naturally in language, and the obscurity and confusion that is so hard to be avoided in the use of words, there are several wilful faults and neglects which men are guilty of in this way of communication, whereby they render these signs less clear and distinct in their signification than naturally they need to be.

3.10.2 *First, words without any, or without clear ideas.*—First, in this kind, the first and most palpable abuse is, the using of words without clear and distinct ideas; or, which is worse, signs without any thing signified. Of these there are two sorts.

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Abuse of words.—Besides the imperfection naturally present in language, and the obscurity and confusion so hard to avoid in the use of words, there are several deliberate faults and neglects that people are guilty of in this means of communication. By these they make these signs less clear and distinct in meaning than they naturally need to be.

First, words without any ideas, or without clear ones.—First, in this kind, the first and most obvious abuse is using words without clear and distinct ideas, or, worse, signs with nothing signified. Of these there are two sorts.

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I. One may observe, in all languages, certain words, that, if they be examined, will be found, in their first original and their appropriate use, not to stand for any clear and distinct ideas. These, for the most part, the several sects of philosophy and religion have introduced. For their authors or promoters, either affecting something singular and out of the way of common apprehension, or to support some strange opinions, or cover some weakness of their hypothesis, seldom fail to coin new words, and such as, when they come to be examined, may justly be called insignificant terms.

For having either had no determinate collection of ideas annexed to them, when they were first invented, or at least, such as, if well examined, will be found inconsistent; it is no wonder if afterwards, in the vulgar use of the same party, they remain empty sounds, with little or no signification, among those who think it enough to have them often in their mouths, as the distinguishing characters of their church, or school, without much troubling their heads to examine what are the precise ideas they stand for.

I shall not need here to heap up instances; every man's reading and conversation will sufficiently furnish him: or if he wants to be better stored, the great mint-masters of this kind of terms, I mean the schoolmen and metaphysicians, (under which, I think, the disputing natural and moral philosophers of these latter ages may be comprehended) have wherewithal abundantly to content him.

3.10.3 II. Others there be who extend this abuse yet farther; who take so little care to lay by words, which, in their primary notation, have scarce any clear and distinct ideas which they are annexed to; that, by an unpardonable negligence, they familiarly use words, which the propriety of language has affixed to very important ideas, without any distinct meaning at all. Wisdom, glory, grace, &c.

are words frequent enough in every man's mouth; but if a great many of those who use them should be asked what they mean by them, they would be at a stand, and not know what to answer: a plain proof, that though they have learned those sounds, and have them ready at their tongue's end, yet there are no determined ideas laid up in

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I. In every language you can find certain words which, if examined, turn out not to stand for any clear and distinct ideas, either in their origin or in their proper use. For the most part these have been introduced by the various sects of philosophy and religion. Their authors or promoters may be aiming at something singular and outside ordinary understanding, or trying to support some strange opinions, or to cover some weakness in their hypothesis. Whatever the reason, they seldom fail to coin new words, and these, when examined, may justly be called meaningless terms.

Such words either had no determinate collection of ideas attached to them when they were first invented, or at least had a collection that, if well examined, will be found inconsistent. So it is no wonder that later, in the common use of the same party, they remain empty sounds with little or no meaning. They stay that way among people who think it enough to have them often on their lips, as the distinguishing marks of their church or school, without troubling their heads much about what precise ideas they stand for.

I need not pile up examples here; everyone's reading and conversation will supply him with enough. If he wants a better stock, the great mint-masters of terms of this kind can more than satisfy him. I mean the schoolmen and metaphysicians, and under these, I think, the disputing natural and moral philosophers of recent ages may be included.

II. Others carry this abuse even further. They take so little care to set aside words that hardly had any clear and distinct ideas attached to them in their original meaning that, through an unpardonable negligence, they casually use words without any distinct meaning at all, even words that proper usage has attached to very important ideas. Wisdom, glory, grace, and so on

are words common enough in everyone's mouth. But if a great many of the people who use them were asked what they mean by them, they would be stuck and not know what to answer. This is a plain proof that, though they have learned those sounds and have them ready on the tip of their

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their minds, which are to be expressed to others by them.

3.10.4 *Occasioned by learning names before the ideas they belong to.*—Men having been accustomed from their cradles to learn words, which are easily got and retained, before they knew or had framed the complex ideas to which they were annexed, or which were to be found in the things they were thought to stand for; they usually continue to do so all their lives; and, without taking the pains necessary to settle in their minds determined ideas, they use their words for such unsteady and confused notions as they have, contenting themselves with the same words other people use: as if their very sound necessarily carried with it constantly the same meaning.

This, though men make a shift with, in the ordinary occurrences of life, where they find it necessary to be understood, and therefore they make signs till they are so; yet this insignificancy in their words, when they come to reason concerning either their tenets or interest, manifestly fills their discourse with abundance of empty, unintelligible noise and jargon; especially in moral matters, where the words for the most part standing for arbitrary and numerous collections of ideas not regularly and permanently united in nature, their bare sounds are often only thought on, or at least very obscure and uncertain notions annexed to them.

Men take the words they find in use among their neighbours; and that they may not seem ignorant what they stand for, use them confidently, without much troubling their heads about a certain fixed meaning: whereby, besides the ease of it, they obtain this advantage, that as in such discourses they seldom are in the right, so they are seldom to be convinced that they are in the wrong; it being all one to go about to draw those men out of their mistakes, who have no settled notions, as to dispossess a vagrant of his habitation, who has no settled abode. This I guess to be so; and every one may observe in himself and others whether it be or no.

3.10.5 *Unsteady application of them.*—Secondly, another great abuse of words is inconsistency in the use of them. It is hard to find a discourse written upon any subject, especially of controversy, wherein

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tongue, there are no determined ideas stored up in their minds for those words to express to others.

Caused by learning names before the ideas they belong to.—From their cradles people have been used to learning words, which are easily picked up and retained, before they knew or had framed the complex ideas those words were attached to, or the ideas to be found in the things the words were thought to stand for. So they usually go on doing this all their lives. They do not take the trouble needed to settle determined ideas in their minds. Instead they use their words for whatever unsteady and confused notions they have, content to use the same words other people use, as if the very sound necessarily and always carried the same meaning with it.

People manage well enough with this in the ordinary events of life, where they find they need to be understood, and so they keep making signs until they are. But when they come to reason about their tenets or their interests, this meaninglessness in their words plainly fills their talk with a great deal of empty, unintelligible noise and jargon. This is especially so in moral matters. There the words mostly stand for arbitrary and numerous collections of ideas that are not regularly and permanently united in nature, so that often only their bare sounds are thought of, or at least only very obscure and uncertain notions are attached to them.

People take the words they find in use among their neighbors, and, so as not to seem ignorant of what they stand for, use them confidently without troubling their heads much about any fixed meaning. Besides being easy, this gives them an advantage: as they are seldom in the right in such discussions, so they can seldom be convinced that they are in the wrong. Trying to draw people with no settled notions out of their mistakes is like trying to evict a vagrant with no settled home. That is my guess, at any rate, and everyone can observe in himself and others whether it is so or not.

Unsteady application of them.—Secondly, another great abuse of words is inconsistency in using them. It is hard to find a discourse on any subject, especially a controversial one, in which an attent-

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one shall not observe, if he read with attention, the same words (and those commonly the most material in the discourse, and upon which the argument turns) used sometimes for one collection of simple ideas, and sometimes for another, which is a perfect abuse of language.

Words being intended for signs of my ideas, to make them known to others, not by any natural signification, but by a voluntary imposition-it is plain cheat and abuse, when I make them stand sometimes for one thing and sometimes for another; the wilful doing whereof can be imputed to nothing but great folly, or greater dishonesty: and a man, in his accounts with another, may, with as much fairness, make the characters of numbers stand sometimes for one and sometimes for another collection of units, (*v. g.* this character 3 stands sometimes for three, sometimes for four, and sometimes for eight) as in his discourse, or reasoning, make the same words stand for different collections of simple ideas.

If men should do so in their reckonings, I wonder who would have to do with them? One who would speak thus, in the affairs and business of the world, and call eight sometimes seven, and sometimes nine, as best served his advantage, will presently have clapped upon him one of the two names men are commonly disgusted with: and yet in arguings and learned contests, the same sort of proceedings passes commonly for wit and learning: but to me it appears a greater dishonesty than the misplacing of counters in the casting up a debt; and the cheat the greater, by how much truth is of greater concernment and value than money.

3.10.6 *Affected obscurity by wrong application.*—Thirdly, another abuse of language is an affected obscurity, by either applying old words to new and unusual significations, or introducing new and ambiguous terms, without defining either; or else putting them so together, as may confound their ordinary meaning. Though the peripatetic philosophy has been most eminent in this way, yet other sects have not been wholly clear of it. There are scarce any of them that are not cumbered with some difficulties (such is the

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ive reader will not notice the same words used sometimes for one collection of simple ideas and sometimes for another. Usually these are the most important words in the discourse, the ones the argument turns on. This is an outright abuse of language.

Words are intended as signs of my ideas, to make them known to others, and they do this by a voluntary imposition, not by any natural meaning. So it is plain cheating and abuse when I make them stand sometimes for one thing and sometimes for another. Doing this deliberately can be put down to nothing but great folly or greater dishonesty. Someone doing accounts with another person might, with just as much fairness, make the numerals stand sometimes for one collection of units and sometimes for another (for example, making the figure 3 stand sometimes for three, sometimes for four, and sometimes for eight), as make the same words stand for different collections of simple ideas in his discourse or reasoning.

If people did this in their reckonings, who, I wonder, would want to deal with them? Anyone who spoke this way in the affairs and business of the world, calling eight sometimes seven and sometimes nine as best suited his advantage, would at once have one of the two names people most resent slapped on him. And yet in arguments and learned contests the same sort of proceeding commonly passes for wit and learning. To me it seems a greater dishonesty than misplacing the counters when adding up a debt. The cheat is greater in proportion as truth is of greater importance and value than money.[39]

Affected obscurity by wrong application.—Thirdly, another abuse of language is an affected obscurity. It comes from applying old words to new and unusual meanings, or introducing new and ambiguous terms, without defining either, or else from putting words together in a way that confuses their ordinary meaning. The Peripatetic philosophy has been the most outstanding in this, but other sects have not been entirely free of it. Hardly one of them is free of some difficulties (such is the imperfection of human knowledge). They have been ob-

39 The two names are presumably "fool" and "knave," matching the "folly" and "dishonesty" just mentioned. Counters were tokens used for reckoning sums.

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imperfection of human knowledge) which they have been fain to cover with obscurity of terms, and to confound the signification of words, which, like a mist before people's eyes, might hinder their weak parts from being discovered.

That body and extension, in common use, stand for two distinct ideas, is plain to any one that will but reflect a little: for were their signification precisely the same, it would be proper, and as intelligible, to say the body of an extension, as the extension of a body: and yet there are those who find it necessary to confound their signification.

To this abuse, and the mischiefs of confounding the signification of words, logic and the liberal sciences, as they have been handled in the schools, have given reputation; and the admired art of disputing hath added much to the natural imperfection of languages, whilst it has been made use of and fitted to perplex the signification of words, more than to discover the knowledge and truth of things: and he that will look into that sort of learned writings, will find the words there much more obscure, uncertain, and undeterminable in their meaning than they are in ordinary conversation.

3.10.7 *Logic and dispute have much contributed to this.*—This is unavoidably to be so, where men's parts and learning are estimated by their skill in disputing. And if reputation and reward shall attend these conquests, which depend mostly on the fineness and niceties of words, it is no wonder if the wit of man, so employed, should perplex, involve, and subtilize the signification of sounds, so as never to want something to say, in opposing or defending any question: the victory being adjudged not to him who had truth on his side, but the last word in the dispute.

3.10.8 *Calling it subtility.*—This, though a very useless skill, and that which I think the direct opposite to the ways of knowledge, hath yet passed hitherto under the laudable and esteemed names of subtility and acuteness; and has had the applause of the schools, and encouragement of one part of the learned men of the world.

And no wonder, since the philosophers of old (the disputing and wrangling philosophers I mean, such as Lucian wittily and with reason taxes) and the schoolmen since, aiming at glory and esteem

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liged to cover these with obscure terms and to confuse the meaning of words, so that, like a mist before people's eyes, it might keep their weak points from being discovered.

Anyone who reflects a little can see that *body* and *extension*, in common use, stand for two distinct ideas. If their meaning were exactly the same, it would be as proper and as intelligible to say "the body of an extension" as "the extension of a body." And yet there are those who find it necessary to confuse their meanings.

Logic and the liberal sciences, as the schools have treated them, have made this abuse respectable, along with the harm done by confusing the meanings of words. The much-admired art of disputing has added a great deal to the natural imperfection of languages, because it has been used and adapted to muddle the meaning of words rather than to discover the knowledge and truth of things. Anyone who looks into that sort of learned writing will find the words there far more obscure, uncertain, and indeterminate in meaning than they are in ordinary conversation.

Logic and dispute have contributed much to this.—This is bound to happen wherever people's abilities and learning are judged by their skill in disputing. These victories depend mostly on fine points and subtleties of words. If reputation and reward follow them, it is no wonder that human wit, so employed, should muddle, entangle, and over-refine the meaning of sounds, so as never to lack something to say in attacking or defending any question. For the victory is awarded to the one who had the last word in the dispute, not to the one who had truth on his side.

Calling it subtlety.—This is a very useless skill, and I take it to be the direct opposite of the ways of knowledge. Yet so far it has gone under the praiseworthy and esteemed names of subtlety and acuteness. It has had the applause of the schools and the encouragement of one part of the learned men of the world.

And no wonder. The philosophers of old aimed at glory and esteem for their great and universal knowledge, which is a great deal easier to pretend to than really to acquire, and so did the schoolmen

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for their great and universal knowledge, (easier a great deal to be pretended to than really acquired) found this a good expedient to cover their ignorance with a curious, and inexplicable web of perplexed words, and procure to themselves the admiration of others by unintelligible terms, the apter to produce wonder, because they could not be understood:

whilst it appears in all history, that these profound doctors were no wiser, nor more useful, than their neighbours; and brought but small advantage to human life, or the societies wherein they lived; unless the coining of new words, where they produced no new things to apply them to, or the perplexing or obscuring the signification of old ones, and so bringing all things into question and dispute, were a thing profitable to the life of man, or worthy commendation and reward.

3.10.9 *This learning very little benefits society.*—For notwithstanding these learned disputants, these all-knowing doctors, it was to the unscholastic statesman that the governments of the world owed their peace, defence, and liberties; and from the illiterate and contemned mechanic (a name of disgrace) that they received the improvements of useful arts. Nevertheless, this artificial ignorance and learned gibberish prevailed mightily in these last ages, by the interest and artifice of those who found no easier way to that pitch of authority and dominion they have attained, than by amusing the men of business and ignorant, with hard words, or employing the ingenious and idle in intricate disputes about unintelligible terms, and holding them perpetually entangled in that endless labyrinth.

Besides, there is no such way to gain admittance, or give defence to strange and absurd doctrines, as to guard them round about with legions of obscure, doubtful, and undefined words: which yet make these retreats more like the dens of robbers, or holes of foxes, than the fortresses of fair warriors; which, if it be hard to get them out of, it is not for the strength that is in them, but the briers and thorns, and the obscurity of the thickets they are beset with. For untruth being

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after them. (I mean the disputing and wrangling philosophers, the kind Lucian wittily and rightly ridicules.) They found this a handy way to cover their ignorance with an elaborate and inexplicable web of tangled words, and to win the admiration of others with unintelligible terms, which were all the better at producing wonder because they could not be understood.[40]

Meanwhile all history shows that these profound doctors were no wiser or more useful than their neighbors, and brought little benefit to human life or to the societies they lived in. The only exception would be if it were profitable to human life, or deserving of praise and reward, to coin new words without producing any new things to apply them to, or to muddle and obscure the meaning of old ones and so bring everything into question and dispute.

This learning benefits society very little.—For all these learned disputants and all-knowing doctors, it was to the unscholarly statesman that the governments of the world owed their peace, defense, and liberties. And it was from the unlettered and despised craftsman ("mechanic" being a term of contempt) that they received the improvements in the useful arts. Nevertheless, this artificial ignorance and learned gibberish has prevailed mightily in these recent ages. It has done so through the interest and cunning of those who found no easier way to reach the height of authority and dominion they have attained than to bemuse men of business and the ignorant with hard words, or to occupy the clever and idle with intricate disputes about unintelligible terms, keeping them forever entangled in that endless labyrinth.

Besides, there is no better way to gain admission for strange and absurd doctrines, or to defend them, than to surround them with legions of obscure, doubtful, and undefined words. Yet such words make these retreats more like robbers' dens or fox-holes than the fortresses of honorable warriors. If it is hard to get the occupants out, that is not because of any strength in the places themselves. It is because of the briars and thorns and the darkness of the thickets around them. Untruth

40 Lucian of Samosata (2nd century AD), Greek satirist who mocked the philosophical schools, for example in *Philosophies for Sale*.

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unacceptable to the mind of man, there is no other defence left for absurdity but obscurity.

3.10.10 *But destroys the instruments of knowledge and communication.*—Thus learned ignorance, and this art of keeping, even inquisitive men, from true knowledge, hath been propagated in the world, and hath much perplexed, whilst it pretended to inform, the understanding. For we see that other well-meaning and wise men, whose education and parts had not acquired that acuteness, could intelligibly express themselves to one another; and in its plain use make a benefit of language. But though unlearned men well enough understood the words white and black, &c. and had constant notions of the ideas signified by those words; yet there were philosophers found, who had learning and subtilty enough to prove, that snow was black; *i. e.* to prove that white was black.

Whereby they had the advantage to destroy the instruments and means of discourse, conversation, instruction, and society; whilst with great art and subtilty they did no more but perplex and confound the signification of words; and thereby render language less useful than the real defects of it had made it; a gift, which the illiterate had not attained to.

3.10.11 *As useful as to confound the sound of the letters.*—These learned men did equally instruct men's understandings, and profit their lives, as he who should alter the signification of known characters, and by a subtle device of learning, far surpassing the capacity of the illiterate, dull, and vulgar, should, in his writings, show that he could put A for B, and D for E, &c. to the no small admiration and benefit of his reader: it being as senseless to put black, which is a word agreed on to stand for one sensible idea, to put it, I say, for another, or the contrary idea, i.

e. to call snow black, as to put this mark A, which is a character agreed on to stand for one modification of sound, made by a certain motion of the organs of speech, for B, which is agreed on to stand for another modification of sound, made by another certain motion of the organs of speech.

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is unacceptable to the human mind, and so the only defense left for absurdity is obscurity.

But destroys the instruments of knowledge and communication.—In this way learned ignorance, and this art of keeping even inquisitive people from true knowledge, has spread through the world, and has greatly confused the understanding while claiming to inform it. We see that other well-meaning and wise people, whose education and abilities had not given them that acuteness, could express themselves intelligibly to one another and benefit from language in its plain use. Unlearned people understood the words white and black, and so on, well enough, and had constant notions of the ideas those words signify. Yet there were still philosophers to be found with learning and subtlety enough to prove that snow was black, that is, to prove that white was black.[41]

This gave them the advantage of destroying the instruments and means of discourse, conversation, instruction, and society. With great art and subtlety they did nothing more than muddle and confuse the meaning of words, and so make language less useful than its real defects had already made it. That was a talent the unlettered never attained.

As useful as confusing the sounds of the letters.—These learned men instructed people's understandings and benefited their lives just as much as someone who changed the meaning of familiar letters. Suppose that, by a subtle learned device far beyond the capacity of the unlettered, dull, and common sort, he showed in his writings that he could put A for B and D for E, and so on, to the no small admiration and benefit of his reader. It is just as senseless to take black, a word agreed on to stand for one sensible idea, and put it, I say, for another idea or the contrary one, that is,

to call snow black, as to put the mark A for B. A is a letter agreed on to stand for one modification of sound, made by a certain motion of the organs of speech, and B is agreed on to stand for another modification of sound, made by another particular motion of the organs of speech.

41 The paradox that snow is black was attributed to Anaxagoras (5th century BC), as reported by Cicero and Sextus Empiricus.

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3.10.12 *This art has perplexed religion and justice.*—Nor hath this mischief stopped in logical niceties, or curious empty speculations; it hath invaded the great concernments of human life and society, obscured and perplexed the material truths of law and divinity; brought confusion, disorder, and uncertainty into the affairs of mankind; and if not destroyed, yet in a great measure rendered useless, these two great rules, religion and justice. What have the greatest part of the comments and disputes upon the laws of God and man served for, but to make the meaning more doubtful, and perplex the sense?

What have been the effects of those multiplied curious distinctions and acute niceties, but obscurity and uncertainty, leaving the words more unintelligible, and the reader more at a loss? How else comes it to pass that princes, speaking or writing to their servants, in their ordinary commands, are easily understood; speaking to their people, in their laws, are not so? And, as I remarked before, doth it not often happen, that a man of an ordinary capacity very well understands a text, or a law, that he reads, till he consults an expositor, or goes to counsel; who, by that time he hath done explaining them, makes the words signify either nothing at all, or what he pleases.

3.10.13 *And ought not to pass for learning.*—Whether any by-interests of these professions have occasioned this, I will not here examine; but I leave it to be considered, whether it would not be well for mankind, whose concernment it is to know things as they are, and to do what they ought, and not to spend their lives in talking about them, or tossing words to and fro; whether it would not be well, I say, that the use of words were made plain and direct, and that language, which was given us for the improvement of knowledge and bond of society, should not be employed to darken truth, and unsettle people's rights; to raise mists, and render unintelligible both morality and religion?

Or that, at least, if this will happen, it should not be thought learning or knowledge to do so?

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This art has confused religion and justice.—Nor has this harm stopped at logical niceties or elaborate empty speculations. It has invaded the great concerns of human life and society. It has obscured and muddled the important truths of law and divinity, and brought confusion, disorder, and uncertainty into human affairs. If it has not destroyed those two great rules, religion and justice, it has at least made them largely useless. What have most of the commentaries and disputes on the laws of God and man served for, except to make the meaning more doubtful and confuse the sense?

What have all those multiplied elaborate distinctions and acute niceties produced but obscurity and uncertainty, leaving the words more unintelligible and the reader more at a loss? How else does it come about that princes are easily understood when they speak or write to their servants in their ordinary commands, but not when they speak to their people in their laws? And, as I remarked before, does it not often happen that a person of ordinary ability understands a text or a law perfectly well when he reads it, until he consults a commentator or goes to a lawyer? By the time that expert has finished explaining them, he has made the words mean either nothing at all or whatever he pleases.

And ought not to pass for learning.—I will not examine here whether any private interests of these professions have caused this. But I leave something to be considered. Mankind's concern is to know things as they are and to do what they ought, not to spend their lives talking about them or tossing words back and forth. Would it not be good for mankind, then, if the use of words were made plain and direct? Language was given us to improve knowledge and to be the bond of society. Would it not be good, I say, if it were not used to darken truth and unsettle people's rights, to raise mists, and to make both morality and religion unintelligible?

Or at least, if this is going to happen, that it should not be thought learning or knowledge to do it?

TAKING WORDS FOR THINGS

Sects treat their own terms as real, and the word "matter" breeds disputes about something distinct from body.

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3.10.14 *Taking them for things.*—Fourthly, another great abuse of words, is the taking them for things. This, though it in some degree concerns all names in general, yet more particularly affects those of substances. To this abuse those men are most subject who most confine their thoughts to any one system, and give themselves up into a firm belief of the perfection of any received hypothesis; whereby they come to be persuaded, that the terms of that sect are so suited to the nature of things, that they perfectly correspond with their real existence.

Who is there, that has been bred up in the peripatetic philosophy, who does not think the ten names, under which are ranked the ten predicaments, to be exactly conformable to the nature of things? Who is there of that school that is not persuaded, that substantial forms, vegetative souls, abhorrence of a vacuum, intentional species, &c. are something real? These words men have learned from their very entrance upon knowledge, and have found their masters and systems lay great stress upon them; and therefore they cannot quit the opinion, that they are conformable to nature, and are the representations of something that really exists.

The Platonists have their soul of the world, and the Epicureans their endeavour towards motion in their atoms, when at rest. There is scarce any sect in philosophy has not a distinct set of terms, that others understand not; but yet this gibberish, which, in the weakness of human understanding, serves so well to palliate men's ignorance, and cover their errors, comes, by familiar use among those of the same tribe, to seem the most important part of language, and of all other the terms the most significant.

And should aerial and ætherial vehicles come once, by the prevalency of that doctrine, to be generally received any where, no doubt those terms would make impressions on men's minds, so as to establish them in the persuasion of the

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Taking them for things.—Fourthly, another great abuse of words is taking them for things. This concerns all names in general to some degree, but it particularly affects the names of substances. Those most prone to it are the people who most confine their thoughts to some one system and give themselves up to a firm belief in the perfection of some received hypothesis. They come to be persuaded that the terms of that sect are so well suited to the nature of things that they correspond perfectly to their real existence.

Who is there, brought up in the Peripatetic philosophy, who does not think that the ten names under which the ten predicaments are ranked correspond exactly to the nature of things? Who is there of that school who is not persuaded that substantial forms, vegetative souls, abhorrence of a vacuum, intentional species, and so on, are something real? People have learned these words from their very first steps in knowledge, and have found their teachers and systems putting great weight on them. So they cannot give up the opinion that these words correspond to nature and represent something that really exists.[42]

The Platonists have their soul of the world, and the Epicureans have the striving toward motion in their atoms when the atoms are at rest. There is hardly any sect in philosophy without its own set of terms that others do not understand. Human understanding is weak, and this gibberish serves very well to gloss over people's ignorance and cover their errors. Through familiar use among members of the same tribe, it comes to seem the most important part of language and the most meaningful of all terms.

Suppose aerial and ethereal vehicles should ever come to be generally accepted somewhere, as that doctrine spreads. No doubt those terms would then make such an impression on people's minds as to establish them in a belief in the reality of

42 The ten predicaments are Aristotle's ten categories. The rest are scholastic doctrines: vegetative souls (the nutritive souls of plants), nature's supposed "abhorrence" of empty space, and intentional species (likenesses of objects supposedly transmitted to the senses).

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reality of such things, as much as peripatetic forms and intentional species have heretofore done.

3.10.15 *Instance, in matter.*—How much names taken for things are apt to mislead the understanding, the attentive reading of philosophical writers would abundantly discover; and that, perhaps, in words little suspected of any such misuse. I shall instance in one only, and that a very familiar one: how many intricate disputes have there been about matter, as if there were some such thing really in nature, distinct from body; as it is evident the word matter stands for an idea distinct from the idea of body! For if the ideas these two terms stood for were precisely the same, they might indifferently, in all places, be put one for another.

But we see, that though it be proper to say, there is one matter of all bodies, one cannot say there is one body of all matters: we familiarly say, one body is bigger than another; but it sounds harsh (and I think is never used) to say, one matter is bigger than another. Whence comes this, then? viz. from hence, that though matter and body be not really distinct, but wherever there is the one there is the other; yet matter and body stand for two different conceptions, whereof the one is incomplete, and but a part of the other.

For body stands for a solid extended figured substance, whereof matter is but a partial and more confused conception, it seeming to me to be used for the substance and solidity of body, without taking in its extension and figure: and therefore it is that, speaking of matter, we speak of it always as one, because in truth it expressly contains nothing but the idea of a solid substance, which is every where the same, every where uniform. This being our idea of matter, we no more conceive or speak of different matters in the world, than we do of different solidities; though we both conceive and speak of different bodies, because extension and figure are capable of variation.

But since solidity cannot exist without extension and figure, the taking matter to be the name of something really existing under that precision, has no doubt produced those obscure and

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such things, just as Peripatetic forms and intentional species have done in the past.[43]

An example: matter.—Careful reading of philosophical writers would amply show how easily names taken for things mislead the understanding, perhaps even in words hardly suspected of any such misuse. I shall give only one example, and a very familiar one. How many intricate disputes there have been about matter, as if there really were some such thing in nature, distinct from body! It is evident, after all, that the word matter stands for an idea distinct from the idea of body. If the ideas these two terms stood for were exactly the same, either could be put for the other anywhere.

But we see that, although it is proper to say there is one matter of all bodies, one cannot say there is one body of all matters. We commonly say one body is bigger than another, but it sounds harsh (and I think is never said) that one matter is bigger than another. Where does this come from, then? Namely from this. Matter and body are not really distinct: wherever there is the one, there is the other. Yet matter and body stand for two different conceptions, and one of them is incomplete and only a part of the other.

For body stands for a solid, extended, shaped substance, and matter is only a partial and more confused conception of it. Matter seems to me to be used for the substance and solidity of body, leaving out its extension and shape. That is why, when we speak of matter, we always speak of it as one. In truth it explicitly contains nothing but the idea of a solid substance, which is everywhere the same, everywhere uniform. Since this is our idea of matter, we no more conceive of or speak of different matters in the world than of different solidities. We do conceive of and speak of different bodies, though, because extension and shape are capable of variation.

But solidity cannot exist without extension and shape. So taking matter to be the name of something that really exists in that abstracted state has

43 The doctrine, held by some Cambridge Platonists such as Henry More, that souls are joined to fine bodies ("vehicles") of air or ether.

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unintelligible discourses and disputes, which have filled the heads and books of philosophers, concerning *materia prima;* which imperfection or abuse, how far it may concern a great many other general terms, I leave to be considered. This, I think, I may at least say, that we should have a great many fewer disputes in the world, if words were taken for what they are, the signs of our ideas only, and not for things themselves.

For when we argue about matter, or any the like term, we truly argue only about the idea we express by that sound; whether that precise idea agree to any thing really existing in nature or no. And if men would tell what ideas they make their words stand for, there could not be half that obscurity or wrangling, in the search or support of truth, that there is.

3.10.16 *This makes errors lasting.*—But whatever inconvenience follows from this mistake of words, this I am sure, that by constant and familiar use, they charm men into notions far remote from the truth of things. It would be a hard matter to persuade any one that the words which his father or schoolmaster, the parson of the parish, or such a reverend doctor used, signified nothing that really existed in nature; which, perhaps, is none of the least causes that men are so hardly drawn to quit their mistakes, even in opinions purely philosophical, and where they have no other interest but truth.

For the words they have a long time been used to, remaining firm in their minds, it is no wonder that the wrong notions annexed to them should not be removed.

3.10.17 *Setting them for what they cannot signify.*—Fifthly, another abuse of words, is the setting them in the place of things which they do or can by no means signify. We may observe, that in the general names of substances, whereof the nominal essences are only known to us, when we put them into propositions, and affirm or deny any thing about them, we do most commonly tacitly suppose, or intend they should stand for, the real essence of a certain sort of substances. For when a man says gold is malleable, he means and would insinuate something more than this, that what I call gold is malleable, (though truly it amounts to

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no doubt produced the obscure and unintelligible discourses and disputes about *materia prima* that have filled the heads and books of philosophers. I leave it to be considered how far this imperfection or abuse may affect a great many other general terms. This much, I think, I can at least say: we would have far fewer disputes in the world if words were taken for what they are, the signs of our ideas only, and not for things themselves.[44]

When we argue about matter, or any similar term, we are really arguing only about the idea we express by that sound, and about whether that precise idea agrees with anything really existing in nature. If people would say what ideas they make their words stand for, there could not be half the obscurity or wrangling there now is, whether in searching for truth or in defending it.

This makes errors lasting.—Whatever inconvenience follows from this mistake about words, I am sure of this much: by constant and familiar use, words charm people into notions far removed from the truth of things. It would be hard to persuade anyone that the words used by his father or schoolmaster, the parish parson, or some reverend doctor signified nothing that really existed in nature. This is perhaps not the least of the reasons why people give up their mistakes with such difficulty, even in purely philosophical opinions, where they have no interest but truth.

The words they have long been used to remain fixed in their minds, so it is no wonder that the wrong notions attached to them are not removed.

Setting them for what they cannot signify.—Fifthly, another abuse of words is putting them in place of things which they do not and cannot in any way signify. Take the general names of substances, of which we know only the nominal essences. When we put them into propositions and affirm or deny anything about them, we most commonly tacitly suppose, or intend, that they stand for the real essence of a certain sort of substances. When someone says gold is malleable, he means, and wants to suggest, something more than that what I call gold is malleable (though in truth his claim

44 *Materia prima,* "prime matter": in Aristotelian and scholastic philosophy, the formless matter underlying all bodies.

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no more) but would have this understood, viz. that gold, i.

e. what has the real essence of gold, is malleable, which amounts to thus much, that malleableness depends on, and is inseparable from, the real essence of gold. But a man not knowing wherein that real essence consists, the connexion in his mind of malleableness is not truly with an essence he knows not, but only with the sound gold he puts for it.

Thus when we say, that animal rationale is, and animal *implume bipes latis unguibus* is not a good definition of a man; it is plain we suppose the name man in this case to stand for the real essence of a species, and would signify, that a rational animal better described that real essence, than a two-legged animal with broad nails, and without feathers.

For else, why might not Plato as properly make the word ἄνθρωπος, or man, stand for his complex idea, made up of the idea of a body, distinguished from others by a certain shape and other outward appearances, as Aristotle make the complex idea, to which he gave the name ἄνθρωπος, or man, of body and the faculty of reasoning joined together, unless the name ἄνθρωπος, or man, were supposed to stand for something else than what it signifies; and to be put in the place of some other thing than the idea a man professes he would express by it?

3.10.18 *v. g. Putting them for the real essences of substances.*— It is true, the names of substances would be much more useful, and propositions made in them much more certain, were the real essences of substances the ideas in our minds, which those words signified. And it is for want of those real essences that our words convey so little knowledge or certainty in our discourses about them: and therefore the mind, to remove that imperfection as much as it can, makes them, by a secret supposition, to stand for a thing, having that real essence, as if thereby it made some nearer approaches to it.

For though the word man or gold signifying nothing truly but a complex idea of properties united together in one sort of substances; yet there is scarce any body in the use of these words, but often supposes each of those names to stand

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amounts to no more than that). He wants it understood that gold, that is,

what has the real essence of gold, is malleable. That amounts to saying that malleability depends on, and is inseparable from, the real essence of gold. But he does not know what that real essence consists in. So the connection that malleability has in his mind is not really with an essence he does not know, but only with the sound gold that he puts in its place.

Thus when we say that *animal rationale* is a good definition of a man and *animal implume bipes latis unguibus* is not, it is plain that we suppose the name man in this case to stand for the real essence of a species. We mean that "a rational animal" describes that real essence better than "a two-legged animal with broad nails and without feathers."

Otherwise, why could Plato not just as properly make the word ἄνθρωπος, or man, stand for his complex idea, made up of the idea of a body distinguished from others by a certain shape and other outward appearances? Aristotle made the complex idea to which he gave the name ἄνθρωπος, or man, consist of body and the faculty of reasoning joined together. Why should Plato be any less entitled to his idea, unless the name ἄνθρωπος, or man, were supposed to stand for something other than what it signifies, and to be put in place of something other than the idea a person professes to express by it?

For example, putting them for the real essences of substances.—It is true that the names of substances would be much more useful, and propositions made with them much more certain, if the ideas in our minds that those words signified were the real essences of substances. It is for lack of those real essences that our words convey so little knowledge or certainty when we discuss substances. So the mind, to remove that imperfection as far as it can, secretly supposes that the words stand for a thing having that real essence, as if this brought it somewhat closer to it.

In truth the word man or gold signifies nothing but a complex idea of properties united together in one sort of substances. Yet hardly anyone uses these words without often supposing that each name stands for a thing having the real essence on

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for a thing having the real essence, on which these properties depend. Which is so far from diminishing the imperfections of our words, that by a plain abuse it adds to it, when we would make them stand for something, which, not being in our complex idea, the name we use can no ways be the sign of.

3.10.19 *Hence we think every change of our idea in substances not to change the species.*—This shows us the reason why in mixed modes any of the ideas that make the composition of the complex one, being left out or changed, it is allowed to be another thing, *i. e.* to be of another species: as is plain in chance-medley, man-slaughter, murder, parricide, &c. The reason whereof is, because the complex idea signified by that name is the real as well as nominal essence; and there is no secret reference of that name to any other essence but that. But in substances it is not so.

For though in that called gold one puts into his complex idea what another leaves out, and vice versa; yet men do not usually think that therefore the species is changed: because they secretly in their minds refer that name, and suppose it annexed to a real immutable essence of a thing existing, on which those properties depend. He that adds to his complex idea of gold that of fixedness and solubility in aq. regia, which he put not in it before, is not thought to have changed the species; but only to have a more perfect idea, by adding another simple idea, which is always in fact joined with those other, of which his former complex idea consisted.

But this reference of the name to a thing, whereof we had not the idea, is so far from helping at all, that it only serves the more to involve us in difficulties. For by this tacit reference to the real essence of that species of bodies, the word gold (which, by standing for a more or less perfect collection of simple ideas, serves to design that sort of body well enough in civil discourse) comes to have no signification at all, being put for somewhat, whereof we have no idea at all, and so can signify nothing at all, when the body itself is away.

For however it may be thought all one, yet, if well considered, it will be found quite a different thing

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which those properties depend. This is so far from lessening the imperfection of our words that it adds to it by a plain abuse. For we try to make the words stand for something that is not in our complex idea, and so something that the name we use can in no way be the sign of.

Hence we think that no change in our idea of a substance changes the species.—This shows us why, in mixed modes, if any of the ideas that make up the complex one is left out or changed, it is granted to be another thing, that is, of another species. This is plain in chance-medley, manslaughter, murder, parricide, and so on. The reason is that the complex idea signified by that name is the real essence as well as the nominal one, and there is no secret reference of that name to any essence but that one. With substances it is different.[45]

Take what is called gold. One person puts into his complex idea what another leaves out, and vice versa. Yet people do not usually think the species is changed as a result. In their minds they secretly refer that name to a real, unchangeable essence of an existing thing, on which those properties depend, and suppose the name attached to it. Suppose someone adds to his complex idea of gold the ideas of fixedness and solubility in aqua regia, which he did not include before. He is not thought to have changed the species. He is thought only to have a more perfect idea, by adding another simple idea that is in fact always joined with the others that made up his former complex idea.

But this reference of the name to a thing of which we had no idea is so far from helping that it only entangles us further in difficulties. The word gold stands for a more or less perfect collection of simple ideas, and in that role it serves well enough to designate that sort of body in everyday discussion. By this tacit reference to the real essence of that species of bodies, however, it comes to have no meaning at all. It is put for something of which we have no idea at all, and so it can signify nothing at all when the body itself is absent.

It may be thought the same thing, but if well considered it will be found quite different to argue

45 Chance-medley: in English law, a killing by accident in a sudden fight.

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to argue about gold in name, and about a parcel in the body itself, *v. g.* a piece of leaf-gold laid before us; though in discourse we are fain to substitute the name for the thing.

3.10.20 *The cause of the abuse, a supposition of nature's working always regularly.*—That which I think very much disposes men to substitute their names for the real essences of species, is the supposition before mentioned, that nature works regularly in the production of things, and sets the boundaries to each of those species, by giving exactly the same real internal constitution to each individual, which we rank under one general name. Whereas any one who observes their different qualities can hardly doubt, that many of the individuals called by the same name, are, in their internal constitution, as different one from another as several of those which are ranked under different specific names.

This supposition, however, that the same precise and internal constitution goes always with the same specific name, makes men forward to take those names for the representatives of those real essences, though indeed they signify nothing but the complex ideas they have in their minds when they use them. So that, if I may so say, signifying one thing, and being supposed for, or put in the place of another, they cannot but, in such a kind of use, cause a great deal of uncertainty in men's discourses; especially in those who have thoroughly imbibed the doctrine of substantial forms, whereby they firmly imagine the several species of things to be determined and distinguished.

3.10.21 *This abuse contains two false suppositions.*—But however preposterous and absurd it be to make our names stand for ideas we have not, or (which is all one) essences that we know not, it being in effect to make our words the signs of nothing; yet it is evident to any one, who ever so little reflects on the use men make of their words, that there is nothing more familiar.

When a man asks whether this or that thing he sees, let it be a drill, or a monstrous fœtus, be a man or no; it is evident, the question is not, whether that particular thing agree to his complex idea, expressed by the name man; but whether it has in it the real essence of a species of things, which he supposes his name man to stand

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about gold in name and about a portion of the body itself, for example a piece of gold leaf laid before us, even though in discourse we are obliged to substitute the name for the thing.

The cause of the abuse: a supposition that nature always works regularly.—What I think strongly disposes people to substitute their names for the real essences of species is the supposition mentioned before. It is supposed that nature works regularly in producing things, and sets the boundaries of each species by giving exactly the same real internal constitution to each individual we rank under one general name. But anyone who observes their different qualities can hardly doubt that many individuals called by the same name are as different from one another in their internal constitution as several that are ranked under different specific names.

Still, the supposition that the same precise internal constitution always goes with the same specific name makes people eager to take those names as representing those real essences. In fact the names signify nothing but the complex ideas people have in their minds when they use them. So, if I may put it this way, they signify one thing and are supposed to stand for, or put in place of, another. Used like this, they cannot help causing a great deal of uncertainty in people's discussions. This is especially true of those who have thoroughly absorbed the doctrine of substantial forms, and firmly imagine that these forms determine and distinguish the various species of things.

This abuse contains two false suppositions.—Making our names stand for ideas we do not have, or (which comes to the same thing) for essences we do not know, is perverse and absurd, since in effect it makes our words the signs of nothing. Yet anyone who reflects even a little on the use people make of their words can see that nothing is more common.

Suppose someone asks whether this or that thing he sees, let it be a drill or a severely malformed fetus, is a man or not. The question plainly is not whether that particular thing agrees with his complex idea expressed by the name man. It is whether the thing has in it the real essence of a species of things, which he supposes his name man to

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for. In which way of using the names of substances there are these false suppositions contained.

First, there are certain precise essences, according to which nature makes all particular things, and by which they are distinguished into species. That every thing has a real constitution, whereby it is what it is, and on which its sensible qualities depend, is past doubt; but I think it has been proved, that this makes not the distinction of species, as we rank them, nor the boundaries of their names.

Secondly, this tacitly also insinuates, as if we had ideas of these proposed essences. For to what purpose else is it to inquire whether this or that thing have the real essence of the species man, if we did not suppose that there were such a specific essence known? which yet is utterly false: and therefore such application of names, as would make them stand for ideas which we have not, must needs cause great disorder in discourses and reasonings about them, and be a great inconvenience in our communication by words.

3.10.22 *A supposition that words have a certain and evident signification.*—Sixthly, there remains yet another more general, though perhaps less observed, abuse of words; and that is, that men having by a long and familiar use annexed to them certain ideas, they are apt to imagine so near and necessary a connexion between the names and the signification they use them in, that they forwardly suppose one cannot but understand what their meaning is; and therefore one ought to acquiesce in the words delivered, as if it were past doubt, that, in the use of those common received sounds, the speaker and hearer had necessarily the same precise ideas.

Whence presuming, that when they have in discourse used any term, they have thereby, as it were, set before others the very thing they talk of; and so likewise taking the words of others as naturally standing for just what they themselves have been accustomed to apply them to, they never trouble themselves to explain their own, or understand clearly others' meaning. From whence commonly proceed noise and wrangling, without improvement or information; whilst men take words to be the constant regular marks of

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stand for. This way of using the names of substances contains the following false suppositions.

First, that there are certain precise essences according to which nature makes all particular things, and by which they are distinguished into species. It is beyond doubt that everything has a real constitution, by which it is what it is and on which its sensible qualities depend. But I think it has been proved that this does not make the distinction of species as we rank them, nor the boundaries of their names.

Secondly, it also tacitly suggests that we have ideas of these supposed essences. What else would be the point of inquiring whether this or that thing has the real essence of the species man, unless we supposed that such a specific essence was known? Yet that is utterly false. So any use of names that would make them stand for ideas we do not have is bound to cause great disorder in discussions and reasonings about them, and to be a great inconvenience in our communication by words.

A supposition that words have a certain and evident signification.—Sixthly, there remains one more abuse of words, more general than the others, though perhaps less noticed. People attach certain ideas to words by long and familiar use. They are then apt to imagine so close and necessary a connection between the names and the meaning they use them in that they readily suppose no one can fail to understand what they mean. So, they think, one ought to accept the words delivered without question, as if it were beyond doubt that the speaker and hearer necessarily had the same precise ideas when using those commonly received sounds.

They presume that when they have used a term in discourse, they have, as it were, set the very thing they are talking about before others. They likewise take other people's words as naturally standing for just what they themselves are used to applying them to. So they never trouble themselves to explain their own meaning, or to understand clearly anyone else's. Noise and wrangling commonly follow, without improvement or information. People take words to be the constant, regular marks of

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agreed notions, which in truth are no more but the voluntary and unsteady signs of their own ideas.

And yet men think it strange, if, in discourse, or (where it is often absolutely necessary) in dispute, one sometimes asks the meaning of their terms: though the arguings one may every day observe in conversation make it evident, that there are few names of complex ideas which any two men use for the same just precise collection. It is hard to name a word which will not be a clear instance of this. Life is a term, none more familiar. Any one almost would take it for an affront to be asked what he meant by it.

And yet if it comes in question, whether a plant, that lies ready formed in the seed, have life; whether the embryo in an egg before incubation, or a man in a swoon without sense or motion, be alive or no; it is easy to perceive that a clear, distinct, settled idea does not always accompany the use of so known a word as that of life is. Some gross and confused conceptions men indeed ordinarily have, to which they apply the common words of their language; and such a loose use of their words serves them well enough in their ordinary discourses or affairs. But this is not sufficient for philosophical inquiries. Knowledge and reasoning require precise determinate ideas.

And though men will not be so importunately dull, as not to understand what others say without demanding an explication of their terms; nor so troublesomely critical, as to correct others in the use of the words they receive from them: yet where truth and knowledge are concerned in the case, I know not what fault it can be to desire the explication of words whose sense seems dubious; or why a man should be ashamed to own his ignorance in what sense another man uses his words, since he has no other way of certainly knowing it but by being informed. This abuse of taking words upon trust has nowhere spread so far, nor with so ill effects, as among men of letters.

The multiplication and obstinacy of disputes, which have so laid waste the intellectual world, is owing to nothing more than to this ill use of words. For though it be generally believed that there is great diversity of opinions in the volumes and variety of controversies the world is

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agreed notions, when in truth they are nothing more than the voluntary and unsteady signs of their own ideas.

And yet people think it strange if someone in a discussion, or in a dispute (where it is often absolutely necessary), occasionally asks what their terms mean. Still, the arguments one can observe every day in conversation make it evident that there are few names of complex ideas that any two people use for exactly the same collection. It is hard to name a word that would not be a clear instance of this. Life is a term, and none is more familiar. Almost anyone would take it as an insult to be asked what he meant by it.

And yet suppose the question comes up whether a plant that lies ready-formed in the seed has life, or whether the embryo in an egg before incubation, or a man in a faint without sense or motion, is alive or not. It is then easy to see that a clear, distinct, settled idea does not always accompany the use of so familiar a word as life. People do ordinarily have some rough and confused conceptions to which they apply the common words of their language, and such a loose use of their words serves them well enough in ordinary conversation and affairs. But this is not enough for philosophical inquiries. Knowledge and reasoning require precise, determinate ideas.

People should not be so tiresomely dull as to be unable to understand what others say without demanding an explanation of their terms. Nor should they be so annoyingly critical as to correct others in the use of the words they receive from them. But where truth and knowledge are at stake, I do not see what fault there can be in asking for an explanation of words whose sense seems doubtful. Nor do I see why anyone should be ashamed to admit that he does not know in what sense another person uses his words, since the only way he can know it for certain is to be told. This abuse of taking words on trust has spread nowhere so far, or with such bad effects, as among men of letters.

The multiplication and stubbornness of disputes, which have laid the intellectual world so waste, are owing to nothing more than to this bad use of words. It is generally believed that the many volumes and the variety of controversies that distract the world contain a great diversity of opin-

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distracted with, yet the most I can find that the contending learned men of different parties do, in their arguings one with another, is, that they speak different languages. For I am apt to imagine, that when any of them, quitting terms, think upon things, and know what they think, they think all the same; though perhaps what they would have, be different.

3.10.23 *The ends of language:* 1. *to convey our ideas.*—To conclude this consideration of the imperfection and abuse of language; the ends of language in our discourse with others being chiefly these three: first, to make known one man's thoughts or ideas to another; secondly, to do it with as much ease and quickness as possible; and, thirdly, thereby to convey the knowledge of things: language is either abused or deficient when it fails of any of these three.

First, words fail in the first of these ends, and lay not open one man's ideas to another's view: 1. When men have names in their mouths, without any determinate ideas in their minds, whereof they are the signs; or, 2. When they apply the common received names of any language to ideas, to which the common use of that language does not apply them: or, 3. When they apply them very unsteadily, making them stand now for one, and by and by for another idea.

3.10.24 *To do it with quickness.*—Secondly, men fail of conveying their thoughts with all the quickness and ease that may be, when they have complex ideas, without having any distinct names for them. This is sometimes the fault of the language itself, which has not in it a sound yet applied to such a signification; and sometimes the fault of the man who has not yet learned the name for that idea he would show another.

3.10.25 *Therewith to convey the knowledge of things.*—Thirdly, there is no knowledge of things conveyed by men's words, when their ideas agree not to the reality of things. Though it be a defect, that has its original in our ideas, which are not so conformable to the nature of things, as attention, study, and application might make them; yet it fails not to extend itself to our words too, when we use them as signs of real beings, which yet never had any reality or existence.

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ions. Yet the most I can find that the contending learned men of different parties do in their arguments with one another is to speak different languages. I am inclined to think that when any of them set aside terms and think about things, and know what they think, they all think the same, though what they want may perhaps be different.

The ends of language: 1. *to convey our ideas.*—To conclude this consideration of the imperfection and abuse of language: the ends of language in our discourse with others are chiefly these three. First, to make one person's thoughts or ideas known to another. Secondly, to do this as easily and quickly as possible. Thirdly, to convey the knowledge of things by this means. Language is either abused or deficient when it fails in any of these three.

First, words fail in the first of these ends, and do not lay one person's ideas open to another's view, in three cases. 1. When people have names in their mouths without any determinate ideas in their minds for those names to be the signs of. 2. When they apply the commonly received names of a language to ideas to which the common use of that language does not apply them. 3. When they apply them very unsteadily, making them stand now for one idea and presently for another.

To do it with quickness.—Secondly, people fail to convey their thoughts with all possible quickness and ease when they have complex ideas without any distinct names for them. Sometimes this is the fault of the language itself, which does not yet have a sound applied to such a meaning. Sometimes it is the fault of the person, who has not yet learned the name for the idea he wants to show another.

Thereby to convey the knowledge of things.—Thirdly, no knowledge of things is conveyed by people's words when their ideas do not agree with the reality of things. This defect originates in our ideas, which do not conform to the nature of things as closely as attention, study, and application might make them. Yet it extends to our words too, when we use them as signs of real beings that never had any reality or existence.

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3.10.26 *How men's words fail in all these.*—First, he that hath words of any language, without distinct ideas in his mind to which he applies them, does, so far as he uses them in discourse, only make a noise without any sense or signification; and how learned soever he may seem by the use of hard words, or learned terms, is not much more advanced thereby in knowledge than he would be in learning, who had nothing in his study but the bare titles of books, without possessing the contents of them. For all such words, however put into discourse, according to the right construction of grammatical rules, or the harmony of well turned periods, do yet amount to nothing but bare sounds, and nothing else.

3.10.27 Secondly, he that has complex ideas, without particular names for them, would be in no better case than a bookseller, who had in his warehouse volumes that lay there unbound, and without titles; which he could therefore make known to others only by showing the loose sheets, and communicating them only by tale. This man is hindered in his discourse for want of words to communicate his complex ideas, which he is therefore forced to make known by an enumeration of the simple ones that compose them; and so is fain often to use twenty words to express what another man signifies in one.

3.10.28 Thirdly, he that puts not constantly the same sign for the same idea, but uses the same words sometimes in one, and sometimes in another signification, ought to pass in the schools and conversation for as fair a man as he does in the market and exchange, who sells several things under the same name.

3.10.29 Fourthly, he that applies the words of any language to ideas different from those to which the common use of that country applies them, however his own understanding may be filled with truth and light, will not by such words be able to convey much of it to others, without defining his terms. For however the sounds are such as are familiarly known, and easily enter the ears of those who are accustomed to them; yet standing for other ideas than those they usually are annexed to, and are wont to excite in the mind

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How men's words fail in all these.—First, someone who has the words of a language, without distinct ideas in his mind to which he applies them, only makes a noise without any sense or meaning, so far as he uses them in discourse. However learned he may seem from his use of hard words or learned terms, he is not much further advanced in knowledge by them than someone would be in learning who had nothing in his study but the bare titles of books, without having their contents. For all such words, however they are put into discourse, whether by the correct construction of grammatical rules or by the harmony of well-turned sentences, still amount to nothing but bare sounds, and nothing else.

Secondly, someone who has complex ideas without particular names for them would be no better off than a bookseller who had volumes in his warehouse lying there unbound and without titles. He could make them known to others only by showing the loose sheets, and could communicate them only sheet by sheet. This man is hindered in his discourse for lack of words to communicate his complex ideas. He is therefore forced to make them known by listing the simple ideas that compose them, and so he often has to use twenty words to express what another man signifies in one.

Thirdly, someone who does not consistently put the same sign for the same idea, but uses the same words sometimes in one meaning and sometimes in another, deserves to pass in the schools and in conversation for as honest a man as the one who, in the market and the exchange, sells several different things under the same name.

Fourthly, someone who applies the words of a language to ideas different from those to which the common use of that country applies them will not be able to convey much of his understanding to others by such words without defining his terms, however full of truth and light that understanding may be. For although the sounds are familiar and easily enter the ears of those who are used to them, they stand for ideas other than the ones they are usually attached to and usually call up in the minds of the hearers. So they cannot make

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of the hearers, they cannot make known the thoughts of him who thus uses them.

3.10.30 Fifthly, he that imagined to himself substances such as never have been, and filled his head with ideas which have not any correspondence with the real nature of things, to which yet he gives settled and defined names, may fill his discourse, and perhaps another man's head, with the fantastical imaginations of his own brain, but will be very far from advancing thereby one jot in real and true knowledge.

3.10.31 He that hath names without ideas, wants meaning in his words, and speaks only empty sounds. He that hath complex ideas without names for them, wants liberty and despatch in his expressions, and is necessitated to use periphrases. He that uses his words loosely and unsteadily, will either be not minded, or not understood. He that applies his names to ideas different from their common use, wants propriety in his language, and speaks gibberish. And he that hath the ideas of substances disagreeing with the real existence of things, so far wants the materials of true knowledge in his understanding, and hath instead thereof chimeras.

3.10.32 *How in substances.*—In our notions concerning substances, we are liable to all the former inconveniences: *v. g.* 1. He that uses the word tarantula, without having any imagination or idea what it stands for, pronounces a good word; but so long means nothing at all by it. 2. He that in a new discovered country shall see several sorts of animals and vegetables, unknown to him before, may have as true ideas of them as of a horse or a stag; but can speak of them only by a description, till he shall either take the names the natives call them by, or give them names himself. 3.

He that uses the word body sometimes for pure extension, and sometimes for extension and solidity together, will talk very fallaciously. 4. He that gives the name horse to that idea which common usage calls mule, talks improperly, and will not be understood. 5. He that thinks the name centaur stands for some real being, imposes on himself, and mistakes words for things.

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known the thoughts of the man who uses them this way.

Fifthly, someone who has imagined substances that never existed, and has filled his head with ideas that do not correspond at all to the real nature of things, and yet gives them settled and defined names, may fill his discourse, and perhaps another man's head, with the fantastic imaginings of his own brain. But he will be very far from advancing one bit in real and true knowledge by doing so.

Someone who has names without ideas lacks meaning in his words and speaks only empty sounds. Someone who has complex ideas without names for them lacks freedom and speed in his expressions, and is forced to use roundabout phrases. Someone who uses his words loosely and unsteadily will either be ignored or not understood. Someone who applies his names to ideas different from their common use lacks propriety in his language and speaks gibberish. And someone who has ideas of substances that disagree with the real existence of things lacks, to that extent, the materials of true knowledge in his understanding, and has chimeras instead.

How in substances.—In our notions of substances we are liable to all the preceding drawbacks. For example: 1. Someone who uses the word "tarantula" without having any image or idea of what it stands for pronounces a good word, but so long as that is so, he means nothing at all by it. 2. Someone who, in a newly discovered country, sees various kinds of animals and plants that he did not know before may have ideas of them as true as his ideas of a horse or a stag. But he can speak of them only by description, until he either adopts the names the inhabitants call them by or gives them names himself.

3. Someone who uses the word "body" sometimes for pure extension, and sometimes for extension and solidity together, will talk very misleadingly. 4. Someone who gives the name "horse" to the idea that common usage calls "mule" talks improperly and will not be understood. 5. Someone who thinks that the name "centaur" stands for some real being deceives himself, and mistakes words for things.

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3.10.33 *How in modes and relations.*—In modes and relations generally we are liable only to the four first of these inconveniences; viz. 1. I may have in my memory the names of modes, as gratitude or charity, and yet not have any precise ideas annexed in my thoughts to those names. 2. I may have ideas, and not know the names that belong to them; *v. g.* I may have the idea of a man's drinking till his colour and humour be altered, till his tongue trips, and his eyes look red, and his feet fail him; and yet not know that it is to be called drunkenness. 3. I may have the ideas of virtues or vices, and names also, but apply them amiss: v.

g. when I apply the name frugality to that idea which others call and signify by this sound, covetousness. 4. I may use any of those names with inconstancy. 5. But, in modes and relations, I cannot have ideas disagreeing to the existence of things: for modes being complex ideas made by the mind at pleasure; and relation being but by way of considering or comparing two things together, and so also an idea of my own making; these ideas can scarce be found to disagree with any thing existing, since they are not in the mind as the copies of things regularly made by nature, nor as properties inseparably flowing from the internal constitution or essence of any substance; but as it were patterns lodged in my memory, with names annexed to them, to denominate actions and relations by, as they come to exist.

But the mistake is commonly in my giving a wrong name to my conceptions; and so using words in a different sense from other people, I am not understood, but am thought to have wrong ideas of them, when I give wrong names to them. Only if I put in my ideas of mixed modes or relations any inconsistent ideas together, I fill my head also with chimeras; since such ideas, if well examined, cannot so much as exist in the mind, much less any real being ever be denominated from them.

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How in modes and relations.—In modes and relations we are generally liable only to the first four of these drawbacks. Namely: 1. I may have the names of modes in my memory, such as "gratitude" or "charity," and yet have no precise ideas attached to those names in my thoughts. 2. I may have ideas and not know the names that belong to them. For example, I may have the idea of a man drinking until his complexion and his mood change, until his tongue stumbles, his eyes look red, and his feet fail him, and yet not know that this is to be called drunkenness. 3. I may have the ideas of virtues or vices, and the names too, but apply them wrongly.

For example, I may apply the name "frugality" to the idea that others call and signify by the sound "covetousness." 4. I may use any of those names inconsistently. 5. But in modes and relations I cannot have ideas that disagree with the existence of things. For modes are complex ideas made by the mind at will, and a relation is only a way of considering or comparing two things together, and so it too is an idea of my own making. These ideas can hardly be found to disagree with anything that exists, since they are not in the mind as copies of things regularly made by nature, nor as properties flowing inseparably from the internal constitution or essence of some substance. They are, as it were, patterns lodged in my memory, with names attached to them, by which to name actions and relations as these come into existence.

The mistake is usually that I give a wrong name to my conceptions. So, since I use words in a different sense from other people, I am not understood, and I am thought to have wrong ideas of things when I have only given them wrong names. Only if I put inconsistent ideas together in my ideas of mixed modes or relations do I also fill my head with chimeras. For such ideas, if examined carefully, cannot even exist in the mind, much less can any real being ever be named from them.

FIGURATIVE SPEECH

Outside entertainment, the figurative arts of rhetoric serve only to mislead the judgment.

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Figurative speech also an abuse of language.—Sixthly, since wit and fancy find easier entertainment in the world than dry truth and real knowledge, figurative speeches and allusion in language will hardly be admitted as an imperfection or abuse of it. I confess, in discourses where we seek rather pleasure and delight than information and improvement, such ornaments as are borrowed from them can scarce pass for faults.

But yet if we would speak of things as they are, we must allow that all the art of rhetoric, besides order and clearness, all the artificial and figurative application of words eloquence hath invented, are for nothing else but to insinuate wrong ideas, move the passions, and thereby mislead the judgment, and so indeed are perfect cheats; and, therefore, however laudable or allowable oratory may render them in harangues and popular addresses, they are certainly, in all discourses that pretend to inform or instruct, wholly to be avoided; and where truth and knowledge are concerned, cannot but be thought a great fault, either of the language or person that makes use of them.

What, and how various they are, will be superfluous here to take notice; the books of rhetoric which abound in the world will instruct those who want to be informed: only I can not but observe how little the preservation and improvement of truth and knowledge is the care and concern of mankind; since the arts of fallacy are endowed and preferred. It is evident how much men love to deceive and be deceived, since rhetoric, that powerful instrument of error and deceit, has its established professors, is publicly taught, and has always been had in great reputation: and, I doubt not, but it will be thought great boldness, if not brutality in me, to have said thus much against it.

Eloquence, like the fair sex, has too prevailing beauties in it to suffer itself ever to be spoken against. And it is in vain to find fault with those arts of deceiving wherein men find pleasure to be deceived.

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Figurative speech also an abuse of language.—Sixthly, since wit and fancy are more welcome in the world than dry truth and real knowledge, figurative speech and allusion will hardly be accepted as an imperfection or abuse of language. I admit that in discourses where we look for pleasure and delight rather than information and improvement, such ornaments borrowed from them can hardly count as faults.

But if we are to speak of things as they are, we must grant that all the art of rhetoric, apart from order and clearness, and all the artificial and figurative uses of words that eloquence has invented, serve for nothing but to insinuate wrong ideas, move the passions, and so mislead the judgment. They are, in fact, perfect cheats. And so, however praiseworthy or acceptable oratory may make them in speeches and popular addresses, they are certainly to be avoided entirely in all discourses that claim to inform or instruct. Where truth and knowledge are concerned, they can only be thought a great fault, either of the language or of the person who uses them.

It would be superfluous to note here what they are and how various; the books of rhetoric, which abound in the world, will instruct those who want to be informed. I can only observe how little the preservation and improvement of truth and knowledge is the care and concern of mankind, since the arts of fallacy are endowed and promoted. It is evident how much men love to deceive and be deceived, since rhetoric, that powerful instrument of error and deceit, has its established professors, is publicly taught, and has always been held in great esteem. And I do not doubt that it will be thought great boldness, if not brutality, on my part to have said this much against it.

Eloquence, like the fair sex, has charms too powerful to allow anyone ever to speak against it. And it is useless to find fault with those arts of deceiving in which men take pleasure in being deceived.

REMEDIES FOR THE IMPERFECTIONS OF WORDS

Locke proposes rules: use no word without an idea, make ideas determinate, keep to common use, and define terms.

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3.11.1 *They are worth seeking.*—The natural and improved imperfections of languages we have seen above at large; and speech being the great bond that holds society together, and the common conduit whereby the improvements of knowledge are conveyed from one man, and one generation to another; it would well deserve our most serious thoughts to consider what remedies are to be found for the inconveniences above mentioned.

3.11.2 *Are not easy.*—I am not so vain to think, that any one can pretend to attempt the perfect reforming the languages of the world, no, not so much as of his own country, without rendering himself ridiculous. To require that men should use their words constantly in the same sense, and for none but determined and uniform ideas, would be to think that all men should have the same notions, and should talk of nothing but what they have clear and distinct ideas of; which is not to be expected by any one who hath not vanity enough to imagine he can prevail with men to be very knowing or very silent.

And he must be very little skilled in the world, who thinks that a voluble tongue shall accompany only a good understanding; or that men's talking much or little should hold proportion only to their knowledge.

3.11.3 *But yet necessary to philosophy.*—But though the market and exchange must be left to their own ways of talking, and gossipings not be robbed of their ancient privilege; though the schools and men of argument would perhaps take it amiss to have any thing offered to abate the length, or lessen the number, of their disputes; yet methinks those who pretend seriously to search after or maintain truth, should think themselves obliged to study how they might deliver themselves without obscurity, doubtfulness, or equivocation, to which men's words are naturally liable, if care be not taken.

3.11.4 *Misuse of words the great cause of errors.*—For he that shall well consider the errors and obscurity, the mistakes and confusion, that are spread in the

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They are worth seeking.—We have seen at length above the natural imperfections of languages and those that have been added to them. Speech is the great bond that holds society together, and the common channel through which the improvements of knowledge are passed from one man, and one generation, to another. So it well deserves our most serious thought to consider what remedies can be found for the drawbacks mentioned above.

Are not easy.—I am not so vain as to think that anyone can undertake a perfect reform of the languages of the world, or even of his own country, without making himself ridiculous. To require that men should always use their words in the same sense, and only for determined and uniform ideas, would be to expect all men to have the same notions and to talk of nothing but what they have clear and distinct ideas of. No one can expect this unless he is vain enough to imagine he can persuade men to be either very knowledgeable or very silent.

And someone must know very little of the world if he thinks that a ready tongue goes only with a good understanding, or that how much or how little men talk is in proportion only to what they know.

But yet necessary to philosophy.—The market and the exchange must be left to their own ways of talking, and gossip must not be robbed of its ancient privilege. The schools and men of argument might perhaps take it badly if anything were proposed that would shorten their disputes or reduce their number. Even so, I think that those who seriously claim to search for or defend truth should consider themselves obliged to learn how to express themselves without the obscurity, doubtfulness, or equivocation to which men's words are naturally liable if care is not taken.

Misuse of words the great cause of errors.—For anyone who carefully considers the errors and obscurity, the mistakes and confusion, spread in the world

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world by an ill use of words, will find some reason to doubt whether language, as it has been employed, has contributed more to the improvement or hinderance of knowledge among mankind. How many are there that, when they would think on things, fix their thoughts only on words, especially when they would apply their minds to moral matters?

And who then can wonder, if the result of such contemplations and reasonings, about little more than sounds, whilst the ideas they annexed to them are very confused and very unsteady, or perhaps none at all; who can wonder, I say, that such thoughts and reasonings end in nothing but obscurity and mistake, without any clear judgment or knowledge?

3.11.5 *Obstinacy.*—This inconvenience, in an ill use of words, men suffer in their own private meditations: but much more manifest are the disorders which follow from it, in conversation, discourse, and arguings with others. For language being the great conduit whereby men convey their discoveries, reasonings, and knowledge, from one to another; he that makes an ill use of it, though he does not corrupt the fountains of knowledge, which are in things themselves; yet he does, as much as in him lies, break or stop the pipes whereby it is distributed to the public use and advantage of mankind. He that uses words without any clear and steady meaning, what does he but lead himself and others into errors?

And he that designedly does it, ought to be looked on as an enemy to truth and knowledge. And yet who can wonder that all the sciences and parts of knowledge have been so overcharged with obscure and equivocal terms, and insignificant and doubtful expressions, capable to make the most attentive or quick-sighted very little or not at all the more knowing or orthodox; since subtilty, in those who make profession to teach or defend truth, hath passed so much for a virtue: a virtue, indeed, which, consisting for the most part in nothing but the fallacious and illusory use of obscure or deceitful terms, is only fit to make men more conceited in their ignorance, and more obstinate in their errors.

3.11.6 *And wrangling.*—Let us look into the books of controversy of any kind; there we shall see, that

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by a bad use of words will find some reason to doubt whether language, as it has been used, has done more to advance or to hinder knowledge among mankind. How many people are there who, when they mean to think about things, fix their thoughts only on words, especially when they turn their minds to moral matters?

Who can be surprised, then, at the result of such contemplations and reasonings about little more than sounds, while the ideas attached to them are very confused and very unsteady, or perhaps not there at all? Who can be surprised, I say, that such thoughts and reasonings end in nothing but obscurity and mistake, without any clear judgment or knowledge?

Obstinacy.—Men suffer this drawback from a bad use of words in their own private meditations. But the disorders that follow from it in conversation, discourse, and argument with others are much more obvious. For language is the great channel through which men pass their discoveries, reasonings, and knowledge from one to another. So someone who misuses it, though he does not corrupt the fountains of knowledge, which are in things themselves, still does all he can to break or block the pipes through which it is distributed for the public use and benefit of mankind. Someone who uses words without any clear and steady meaning—what does he do but lead himself and others into errors?

And someone who does it on purpose should be regarded as an enemy of truth and knowledge. And yet who can be surprised that all the sciences and branches of knowledge have been so overloaded with obscure and equivocal terms, and with meaningless and doubtful expressions, which can make even the most attentive or sharp-sighted little or no more knowledgeable or orthodox? For subtlety, in those who profess to teach or defend truth, has passed so much for a virtue. It is a virtue, indeed, that consists for the most part in nothing but the fallacious and deceptive use of obscure or misleading terms, and it is fit only to make men more conceited in their ignorance and more obstinate in their errors.

And wrangling.—Let us look into books of controversy of any kind. There we shall see that the ef-

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the effect of obscure, unsteady, or equivocal terms, is nothing but noise and wrangling about sounds, without convincing or bettering a man's understanding. For if the idea be not agreed on betwixt the speaker and hearer, for which the words stand, the argument is not about things, but names. As often as such a word, whose signification is not ascertained betwixt them, comes in use, their understandings have no other object wherein they agree, but barely the sound; the things that they think on at that time, as expressed by that word, being quite different.

3.11.7 *Instance, bat and bird.*—Whether a bat be a bird or no, is not a question; whether a bat be another thing than indeed it is, or have other qualities than indeed it has, for that would be extremely absurd to doubt of: but the question is, 1.

Either between those that acknowledge themselves to have but imperfect ideas of one or both of this sort of things, for which these names are supposed to stand; and then it is a real inquiry concerning the name of a bird or a bat, to make their yet imperfect ideas of it more complete, by examining whether all the simple ideas, to which, combined together, they both give the name bird, be all to be found in a bat: but this is a question only of inquirers (not disputers,) who neither affirm nor deny, but examine. Or, 2. It is a question between disputants, whereof the one affirms, and the other denies, that a bat is a bird.

And then the question is barely about the signification of one or both these words; in that they not having both the same complex ideas, to which they give these two names, one holds, and the other denies, that these two names may be affirmed one of another. Were they agreed in the signification of these two names, it were impossible they should dispute about them: for they would presently and clearly see (were that adjusted between them) whether all the simple ideas, of the more general name bird, were found in the complex idea of a bat, or no; and so there could be no doubt whether a bat were a bird or no.

And here I desire it may be considered, and carefully examined, whether the greatest part of the disputes in the world are not merely verbal, and about the signification of words; and

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fect of obscure, unsteady, or equivocal terms is nothing but noise and wrangling about sounds, which neither convinces nor improves anyone's understanding. For if the speaker and hearer have not agreed on the idea the words stand for, the argument is not about things but about names. Whenever such a word, whose meaning has not been settled between them, comes into use, the only thing their understandings agree on is the bare sound, since the things they are thinking of at that moment, as expressed by that word, are quite different.

Instance, bat and bird.—Whether a bat is a bird or not is not a question about whether a bat is something other than what it really is, or has qualities other than those it really has; it would be extremely absurd to doubt that. The question is one of two kinds.

1. It may be between people who admit that they have only imperfect ideas of one or both of the sorts of things these names are supposed to stand for. Then it is a real inquiry into the names "bird" and "bat," meant to make their still imperfect ideas more complete, by examining whether all the simple ideas that they both combine under the name "bird" are to be found in a bat. But this is a question only for inquirers (not disputers), who neither affirm nor deny, but examine. Or, 2. It is a question between disputants, one of whom affirms and the other denies that a bat is a bird.

Then the question is merely about the meaning of one or both of these words. Since the two of them do not have the same complex ideas to which they give these two names, one holds and the other denies that the one name can be affirmed of the other. If they agreed on the meaning of these two names, it would be impossible for them to dispute about them. For once that was settled between them, they would immediately and clearly see whether or not all the simple ideas of the more general name "bird" were found in the complex idea of a bat; and so there could be no doubt whether a bat was a bird or not.

And here I ask that it be considered and carefully examined whether most of the disputes in the world are not merely verbal, and about the meaning of words. And I ask whether, if the terms they

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whether, if the terms they are made in were defined, and reduced in their signification (as they must be where they signify any thing) to determined collections of the simple ideas they do or should stand for, those disputes would not end of themselves and immediately vanish. I leave it then to be considered, what the learning of disputation is, and how well they are employed for the advantage of themselves or others, whose business is only the vain ostentation of sounds; *i. e.* those who spend their lives in disputes and controversies.

When I shall see any of those combatants strip all his terms of ambiguity and obscurity (which every one may do in the words he uses himself) I shall think him a champion for knowledge, truth, and peace, and not the slave of vainglory, ambition, or a party.

3.11.8 To remedy the defects of speech before mentioned to some degree, and to prevent the inconveniences that follow from them, I imagine the observation of these following rules may be of use, till somebody better able shall judge it worth his while to think more maturely on this matter, and oblige the world with his thoughts on it.

1. *Remedy, to use no word without an idea.*—First, a man should take care to use no word without a signification, no name without an idea for which he makes it stand. This rule will not seem altogether needless to any one who shall take the pains to recollect how often he has met with such words, as instinct, sympathy, and antipathy, &c. in the discourse of others, so made use of, as he might easily conclude, that those that used them had no ideas in their minds to which they applied them; but spoke them only as sounds, which usually served instead of reasons on the like occasions.

Not but that these words, and the like, have very proper significations in which they may be used; but there being no natural connexion between any words and any ideas, these, and any other, may be learned by rote, and pronounced or writ by men, who have no ideas in their minds to which they have annexed them, and for which they make them stand; which is necessary they should, if men would speak intelligibly even to themselves alone.

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are conducted in were defined, and their meaning reduced (as it must be wherever they mean anything) to determined collections of the simple ideas they do or should stand for, those disputes would not end of themselves and immediately vanish. I leave it to others, then, to consider what the learning of disputation amounts to, and how well those people are employed, for their own benefit or anyone else's, whose whole business is the vain display of sounds; that is, those who spend their lives in disputes and controversies.

When I see any of those combatants strip all his terms of ambiguity and obscurity (which anyone can do with the words he himself uses), I shall think him a champion of knowledge, truth, and peace, and not the slave of vainglory, ambition, or a party.

To remedy the defects of speech mentioned above to some degree, and to prevent the drawbacks that follow from them, I think it may be useful to observe the following rules, until someone better able to do so thinks it worth his while to consider this matter more thoroughly and favors the world with his thoughts on it.

1. *Remedy, to use no word without an idea.*—First, a man should take care to use no word without a meaning, and no name without an idea for which he makes it stand. This rule will not seem altogether unnecessary to anyone who takes the trouble to recall how often he has met with words such as "instinct," "sympathy," and "antipathy," etc., in other people's talk, used in such a way that he could easily conclude that those who used them had no ideas in their minds to which they applied them, but spoke them only as sounds, which on such occasions usually served in place of reasons.

Not that these words and others like them do not have perfectly proper meanings in which they may be used. But since there is no natural connection between any words and any ideas, these and any other words may be learned by rote, and spoken or written by men who have no ideas in their minds to which they have attached them and for which they make them stand. Yet it is necessary that they should have such ideas, if men are to speak intelligibly even to themselves alone.

3.11.9 2. *To have distinct ideas annexed to them in modes.*—Secondly, it is not enough a man uses his words as signs of some ideas: those he annexes them to, if they be simple, must be clear and distinct; if complex, must be determinate, *i. e.* the precise collection of simple ideas settled in the mind with that sound annexed to it, as the sign of that precise determined collection, and no other. This is very necessary in names of modes, and especially moral words; which having no settled objects in nature, from whence their ideas are taken, as from their original, are apt to be very confused.

Justice is a word in every man's mouth, but most commonly with a very undetermined loose signification: which will always be so, unless a man has in his mind a distinct comprehension of the component parts that complex idea consists of: and if it be decompounded, must be able to resolve it still on, till he at last comes to the simple ideas that make it up: and unless this be done, a man makes an ill use of the word, let it be justice, for example, or any other.

I do not say, a man need stand to recollect, and make this analysis at large, every time the word justice comes in his way: but this at least is necessary, that he have so examined the signification of that name, and settled the idea of all its parts in his mind, that he can do it when he pleases. If one, who makes his complex idea of justice to be such a treatment of the person or goods of another as is according to law, hath not a clear and distinct idea what law is, which makes a part of his complex idea of justice, it is plain his idea of justice itself will be confused and imperfect.

This exactness will, perhaps, be judged very troublesome; and therefore most men will think they may be excused from settling the complex ideas of mixed modes so precisely in their minds. But yet I must say, till this be done, it must not be wondered that they have a great deal of obscurity and confusion in their own minds, and a great deal of wrangling in their discourse with others.

3.11.10 *Distinct and conformable in substances.*—In the names of substances, for a right use of them, something more is required than barely determined ideas. In these the names must also

2. *To have distinct ideas annexed to them in modes.*—Secondly, it is not enough that a man uses his words as signs of some ideas. The ideas he attaches them to must be clear and distinct if they are simple, and determinate if they are complex; that is, a precise collection of simple ideas settled in the mind, with that sound attached to it as the sign of that precise, determined collection and no other. This is very necessary in the names of modes, and especially in moral words. Since these have no settled objects in nature from which their ideas are taken as from their original, they tend to be very confused.

"Justice" is a word in everyone's mouth, but most commonly with a very undetermined, loose meaning. And it will always be so unless a man has in his mind a distinct grasp of the component parts that the complex idea consists of. And if it is compounded of further compounds, he must be able to keep breaking it down until he finally reaches the simple ideas that make it up. Unless this is done, a man makes a bad use of the word, whether it is "justice," for example, or any other.

I do not say that a man needs to stop and recollect, and carry out this analysis in full, every time the word "justice" comes his way. But at least this much is necessary: that he has examined the meaning of that name, and settled the idea of all its parts in his mind, well enough that he can do it whenever he wants. Suppose someone makes his complex idea of justice to be such treatment of another's person or goods as is in accordance with law. If he does not have a clear and distinct idea of what law is, which is part of his complex idea of justice, it is plain that his idea of justice itself will be confused and imperfect.

This exactness may be judged very troublesome, and so most men will think they may be excused from settling the complex ideas of mixed modes so precisely in their minds. Yet I must say that until this is done, it is no wonder that they have a great deal of obscurity and confusion in their own minds, and a great deal of wrangling in their discussions with others.

Distinct and conformable in substances.—For a right use of the names of substances, something more is required than merely determined ideas. In these, the names must also conform to things as they ex-

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be conformable to things as they exist: but of this I shall have occasion to speak more largely by and by. This exactness is absolutely necessary in inquiries after philosophical knowledge, and in controversies about truth. And though it would be well, too, if it extended itself to common conversation, and the ordinary affairs of life, yet I think that is scarce to be expected. Vulgar notions suit vulgar discourses; and both, though confused enough, yet serve pretty well the market and the wake.

Merchants and lovers, cooks and tailors, have words wherewithal to despatch their ordinary affairs; and so, I think, might philosophers and disputants too, if they had a mind to understand, and to be clearly understood.

3.11.11 3. *Propriety.*—Thirdly, it is not enough that men have ideas, determined ideas, for which they make these signs stand: but they must also take care to apply their words, as near as may be, to such ideas as common use has annexed them to. For words, especially of languages already framed, being no man's private possession, but the common measure of commerce and communication, it is not for any one, at pleasure, to change the stamp they are current in, nor alter the ideas they are affixed to; or, at least, when there is a necessity to do so, he is bound to give notice of it.

Men's intentions in speaking are, or at least should be, to be understood; which cannot be without frequent explanations, demands, and other the like incommodious interruptions, where men do not follow common use. Propriety of speech is that which gives our thoughts entrance into other men's minds with the greatest ease and advantage; and therefore deserves some part of our care and study, especially in the names of moral words. The proper signification and use of terms is best to be learned from those who in their writings and discourses appear to have had the clearest notions, and applied to them their terms with the exactest choice and fitness.

This way of using a man's words, according to the propriety of the language, though it have not always the good fortune to be understood, yet most commonly leaves the blame of it on him who is so unskilful in the language he speaks, as

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ist; but I shall have occasion to speak of this more fully shortly. This exactness is absolutely necessary in inquiries after philosophical knowledge and in controversies about truth. It would be good if it extended to ordinary conversation and the everyday business of life as well, but I think that can hardly be expected. Common notions suit common talk, and both, though confused enough, serve pretty well for the market and the village fair.

Merchants and lovers, cooks and tailors, have words with which to carry on their ordinary business; and so, I think, might philosophers and disputants too, if they had a mind to understand and to be clearly understood.

3. *Propriety.*—Thirdly, it is not enough that men have ideas, determined ideas, for which they make these signs stand. They must also take care to apply their words, as nearly as possible, to the ideas that common use has attached them to. For words, especially in languages already formed, are no one's private property but the common measure of trade and communication. So it is not for anyone to change at will the stamp under which they circulate, or to alter the ideas they are attached to; or at least, when it is necessary to do so, he is bound to give notice of it.

Men's intention in speaking is, or at least should be, to be understood. That cannot happen, where men do not follow common use, without frequent explanations, questions, and other such inconvenient interruptions. Propriety of speech is what lets our thoughts into other men's minds with the greatest ease and advantage, and so it deserves some part of our care and study, especially with moral words. The proper meaning and use of terms is best learned from those who, in their writings and conversation, appear to have had the clearest notions, and to have applied their terms to them with the most exact choice and fitness.

This way of using one's words according to the propriety of the language does not always have the good fortune to be understood. But most commonly it leaves the blame on the person who is so

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not to understand it, when made use of as it ought to be.

3.11.12 4. *To make known their meaning.*—Fourthly, but because common use has not so visibly annexed any signification to words, as to make men know always certainly what they precisely stand for; and because men, in the improvement of their knowledge, come to have ideas different from the vulgar and ordinary received ones, for which they must either make new words (which men seldom venture to do, for fear of being thought guilty of affectation or novelty) or else must use old ones in a new signification: therefore, after the observation of the foregoing rules, it is sometimes necessary, for the ascertaining the signification of words, to declare their meaning; where either common use has left it uncertain and loose (as it has in most names of very complex ideas) or where the term, being very material in the discourse, and that upon which it chiefly turns, is liable to any doubtfulness or mistake.

3.11.13 *And that three ways.*—As the ideas men's words stand for are of different sorts; so the way of making known the ideas they stand for, when there is occasion, is also different. For though defining be thought the proper way to make known the proper signification of words, yet there are some words that will not be defined, as there are others, whose precise meaning cannot be made known but by definition; and perhaps a third, which partake somewhat of both the other, as we shall see in the names of simple ideas, modes, and substances.

3.11.14 1. *In simple ideas, by synonymous terms, or showing.*—First, when a man makes use of the name of any simple idea, which he perceives is not understood, or is in danger to be mistaken, he is obliged by the laws of ingenuity, and the end of speech, to declare his meaning, and make known what idea he makes it stand for. This, as has been shown, cannot be done by definition; and therefore, when a synonymous word fails to do it, there is but one of these ways left. First, sometimes the naming the subject, wherein that simple idea is to be found, will make its name to be understood by those who are acquainted with that subject, and know it by that name.

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unskilled in the language he speaks that he does not understand it when it is used as it should be.

4. *To make known their meaning.*—Fourthly, common use has not attached a meaning to words so visibly that men always know for certain what they precisely stand for. And men, as their knowledge improves, come to have ideas different from the common, ordinarily received ones, for which they must either make new words (which men seldom dare to do, for fear of being thought guilty of affectation or novelty) or else use old words in a new meaning. Therefore, after observing the preceding rules, it is sometimes necessary to state the meaning of words in order to fix it. This is so where common use has left it uncertain and loose (as it has in most names of very complex ideas), or where the term is very important to the discussion, the one on which it mainly turns, and is open to any doubt or mistake.

And that three ways.—As the ideas men's words stand for are of different sorts, so the way of making known the ideas they stand for, when there is occasion, is also different. For although defining is thought to be the proper way to make known the proper meaning of words, there are some words that cannot be defined, just as there are others whose precise meaning cannot be made known except by definition; and perhaps there is a third kind, which shares something of both the others. We shall see this in the names of simple ideas, modes, and substances.

1. *In simple ideas, by synonymous terms, or showing.*—First, when a man uses the name of some simple idea and sees that it is not understood, or is in danger of being mistaken, he is obliged by the laws of candor and by the purpose of speech to state his meaning and make known what idea he makes it stand for. As has been shown, this cannot be done by definition. So when a synonym fails to do it, only one of the following ways is left. First, sometimes naming the subject in which that simple idea is found will make its name understood by those who are acquainted with that subject and know it by that name.

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So to make a countryman understand what "feuille-morte" colour signifies, it may suffice to tell him, it is the colour of withered leaves falling in autumn. Secondly, but the only sure way of making known the signification of the name of any simple idea, is by presenting to his senses that subject which may produce it in his mind, and make him actually have the idea that word stands for.

3.11.15 2. *In mixed modes, by definition.*—Secondly, mixed modes, especially those belonging to morality, being most of them such combinations of ideas as the mind puts together of its own choice, and whereof there are not always standing patterns to be found existing; the signification of their names cannot be made known, as those of simple ideas, by any showing; but, in recompense thereof, may be perfectly and exactly defined.

For they being combinations of several ideas, that the mind of man has arbitrarily put together, without reference to any archetypes, men may, if they please, exactly know the ideas that go to each composition, and so both use these words in a certain and undoubted signification, and perfectly declare, when there is occasion, what they stand for. This, if well considered, would lay great blame on those who make not their discourses, about moral things very clear and distinct.

For since the precise signification of the names of mixed modes, or, which is all one, the real essence of each species is to be known, they being not of nature's, but man's making, it is a great negligence and perverseness to discourse of moral things with uncertainty and obscurity; which is more pardonable in treating of natural substances, where doubtful terms are hardly to be avoided, for a quite contrary reason, as we shall see by and by.

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So to make a countryman understand what the color “feuille-morte” means, it may be enough to tell him that it is the color of withered leaves falling in autumn. Secondly, the only sure way of making known the meaning of the name of a simple idea is to present to his senses the subject that can produce it in his mind, and make him actually have the idea that the word stands for.

2. *In mixed modes, by definition.*—Secondly, mixed modes, especially those belonging to morality, are for the most part combinations of ideas that the mind puts together by its own choice, and of which standing patterns are not always found existing. So the meaning of their names cannot be made known by any showing, as those of simple ideas can. But in compensation, they can be defined perfectly and exactly.

For since they are combinations of several ideas that the human mind has put together arbitrarily, without reference to any archetypes, men can, if they wish, know exactly the ideas that go into each combination. And so they can both use these words in a certain and undoubted meaning and state perfectly what they stand for when there is occasion. If this were well considered, it would put great blame on those who do not make their discussions of moral matters very clear and distinct.

For since the precise meaning of the names of mixed modes—or, what is the same thing, the real essence of each species—can be known, these being made not by nature but by man, it is great negligence and perversity to discuss moral matters with uncertainty and obscurity. That is more pardonable in dealing with natural substances, where doubtful terms can hardly be avoided, for quite the opposite reason, as we shall see shortly.

MORALITY CAPABLE OF DEMONSTRATION

Because moral words stand for ideas we make ourselves, morality can be as demonstrable as mathematics.

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3.11.16 *Morality capable of demonstration.*—Upon this ground it is, that I am bold to think that morality is capable of demonstration, as well as mathematics; since the precise real essence of the

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Morality capable of demonstration.—It is on this basis that I venture to think that morality is capable of demonstration, as well as mathematics. For the precise real essence of the things that mor-

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things moral words stand for may be perfectly known; and so the congruity or incongruity of the things themselves be certainly discovered; in which consists perfect knowledge. Nor let any one object, that the names of substances are often to be made use of in morality, as well as those of modes, from which will arise obscurity. For as to substances, when concerned in moral discourses, their divers natures are not so much inquired into as supposed; v.

g. when we say that man is subject to law, we mean nothing by man but a corporeal rational creature: what the real essence or other qualities of that creature are, in this case, is noway considered. And therefore, whether a child or changeling be a man in a physical sense, may among the naturalists be as disputable as it will, it concerns not at all the moral man, as I may call him, which is this immovable, unchangeable idea, a corporeal rational being.

For were there a monkey, or any other creature, to be found, that has the use of reason to such a degree as to be able to understand general signs, and to deduce consequences about general ideas, he would no doubt be subject to law, and in that sense be a man, how much soever he differed in shape from others of that name.

The names of substances, if they be used in them as they should, can no more disturb moral than they do mathematical discourses: where, if the mathematician speaks of a cube or globe of gold, or any other body, he has his clear settled idea, which varies not, though it may by mistake be applied to a particular body to which it belongs not.

3.11.17 *Definitions can make moral discourses clear.*—This I have here mentioned by the by, to show of what consequence it is for men, in their names of mixed modes, and consequently in all their moral discourses, to define their words when there is occasion: since thereby moral knowledge may be brought to so great clearness and certainty. And it must be great want of ingenuity (to say no worse of it) to refuse to do it: since a definition is the only way whereby the precise meaning of moral words can be known; and yet a way whereby their meaning may be known certainly, and without leaving any room for any contest about it.

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al words stand for can be perfectly known, and so the congruity or incongruity of the things themselves can be discovered with certainty; and in this perfect knowledge consists. Nor let anyone object that the names of substances must often be used in morality, as well as those of modes, and that obscurity will arise from this. For when substances come into moral discussions, their various natures are not so much inquired into as taken for granted.

For example, when we say that man is subject to law, we mean nothing by "man" but a bodily, rational creature. What the real essence or other qualities of that creature are is not considered at all in this case. And so, however debatable it may be among natural philosophers whether an infant or a severely intellectually disabled child is a man in the physical sense, it does not concern the moral man at all, as I may call him, which is this fixed, unchangeable idea: a bodily, rational being.

For if there were a monkey, or any other creature, to be found that had the use of reason to such a degree as to be able to understand general signs and draw inferences about general ideas, he would no doubt be subject to law, and in that sense be a man, however much he differed in shape from others of that name.

The names of substances, if they are used as they should be, can no more disturb moral discussions than they disturb mathematical ones. There, if the mathematician speaks of a cube or globe of gold, or of any other body, he has his clear, settled idea, which does not vary, even though he may mistakenly apply it to a particular body to which it does not belong.

Definitions can make moral discourses clear.—I have mentioned this here in passing to show how important it is for men to define their words when there is occasion, in their names of mixed modes and therefore in all their moral discussions, since in this way moral knowledge can be brought to such great clearness and certainty. And it must be a great lack of candor (to say no worse of it) to refuse to do so. For a definition is the only way by which the precise meaning of moral words can be known, and yet it is a way by which their meaning can be known with certainty, leaving no room for any dispute about it.

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And therefore the negligence or perverseness of mankind cannot be excused, if their discourses in morality be not much more clear than those in natural philosophy; since they are about ideas in the mind, which are none of them false or disproportionate: they having no external beings for the archetypes which they are referred to, and must correspond with.

It is far easier for men to frame in their minds an idea which shall be the standard to which they will give the name justice, with which pattern, so made, all actions that agree shall pass under that denomination; than, having seen Aristides, to frame an idea that shall in all things be exactly like him: who is as he is, let men make what idea they please of him. For the one, they need but know the combination of ideas that are put together in their own minds; for the other, they must inquire into the whole nature, and abstruse hidden constitution, and various qualities of a thing existing without them.

3.11.18 *And is the only way.*—Another reason that makes the defining of mixed modes so necessary, especially of moral words, is what I mentioned a little before, viz. that it is the only way whereby the signification of the most of them can be known with certainty.

For the ideas they stand for being for the most part such whose component parts nowhere exist together, but scattered and mingled with others, it is the mind alone that collects them, and gives them the union of one idea; and it is only by words, enumerating the several simple ideas which the mind has united, that we can make known to others what their names stand for; the assistance of the senses in this case not helping us, by the proposal of sensible objects, to show the ideas which our names of this kind stand for, as it does often in the names of sensible simple ideas, and also to some degree in those of substances.

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So the negligence or perversity of mankind cannot be excused if their discussions of morality are not much clearer than those in natural philosophy. For they are about ideas in the mind, none of which is false or ill-matched, since they have no external beings as the archetypes to which they are referred and with which they must correspond.

It is far easier for men to form in their minds an idea that will be the standard to which they give the name "justice," so that all actions that agree with the pattern so made will go under that name, than, having seen Aristides, to form an idea that will be exactly like him in all respects. For he is as he is, whatever idea men choose to make of him. For the first, they need only know the combination of ideas that has been put together in their own minds. For the second, they must inquire into the whole nature, the obscure hidden constitution, and the various qualities of a thing existing outside them.[46]

And is the only way.—Another reason that makes defining mixed modes, especially moral words, so necessary is the one I mentioned a little earlier: namely, that it is the only way by which the meaning of most of them can be known with certainty.

For the ideas they stand for are for the most part ones whose component parts nowhere exist together, but are scattered and mixed with others. It is the mind alone that collects them and gives them the unity of one idea. And it is only by words, listing the several simple ideas the mind has united, that we can make known to others what their names stand for. In this case the senses give us no help, by presenting sensible objects, in showing the ideas that names of this kind stand for, as they often do with the names of sensible simple ideas, and to some degree also with those of substances.

DEFINING THE NAMES OF SUBSTANCES

Substance names need both showing and defining, and should conform to things as natural history finds them.

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3.11.19

46 Aristides: Athenian statesman and general of the fifth century BC, known as "the Just."

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3. *In substances, by showing and defining.*—Thirdly, for the explaining the signification of the names of substances, as they stand for the ideas we have of their distinct species, both the before-mentioned ways, viz. of showing and defining, are requisite in many cases to be made use of. For there being ordinarily in each sort some leading qualities, to which we suppose the other ideas, which make up our complex idea of that species, annexed; we forwardly give the specific name to that thing, wherein that characteristical mark is found, which we take to be the most distinguishing idea of that species.

These leading or characteristical (as I may call them) ideas, in the sorts of animals and vegetables, are (as has been before remarked, ch. vi. Sect. 29. and ch. ix. Sect. 15.) mostly figure, and in inanimate bodies colour, and in some both together. Now,

3.11.20 *Ideas of the leading qualities of substances are best got by showing.*—These leading sensible qualities are those which make the chief ingredients of our specific ideas, and consequently the most observable and invariable part in the definitions of our specific names, as attributed to sorts of substances coming under our knowledge.

For though the sound man, in its own nature, be as apt to signify a complex idea, made up of animality and rationality, united in the same subject, as to signify any other combination; yet used as a mark to stand for a sort of creatures we count of our own kind, perhaps, the outward shape is as necessary to be taken into our complex idea, signified by the word man, as any other we find in it: and therefore why Plato's "*animal implume bipes latis unguibus*" should not be a good definition of the name man, standing for that sort of creatures, will not be easy to show: for it is the shape, as the leading quality, that seems more to determine that species than a faculty of reasoning, which appears not at first, and in some never.

And if this be not allowed to be so, I do not know how they can be excused from murder who kill monstrous births (as we call them), because of an unordinary shape, without knowing whether they have a rational soul or no; which can be no more discerned in a well-formed than ill-shaped infant,

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3. *In substances, by showing and defining.*—Thirdly, to explain the meaning of the names of substances, as they stand for the ideas we have of their distinct species, both of the ways already mentioned, namely showing and defining, must in many cases be used. For in each sort there are usually some leading qualities to which we suppose the other ideas that make up our complex idea of that species are attached. We readily give the specific name to any thing in which that characteristic mark is found, which we take to be the most distinguishing idea of that species.

These leading or (as I may call them) characteristic ideas are, in the sorts of animals and plants, mostly shape (as has been noted before, Book III, Chapter 6, Section 29, and Chapter 9, Section 15); in inanimate bodies, color; and in some, both together. Now,

Ideas of the leading qualities of substances are best got by showing.—These leading sensible qualities are the ones that make up the chief ingredients of our specific ideas, and so the most noticeable and invariable part of the definitions of our specific names, as they are applied to the sorts of substances that come within our knowledge.

For although the sound "man" is, in its own nature, as fit to signify a complex idea made up of animality and rationality united in the same subject as to signify any other combination, still, when it is used as a mark for a sort of creatures we count as our own kind, perhaps the outward shape needs to be taken into our complex idea signified by the word "man" as much as anything else we find in it. And so it will not be easy to show why Plato's "*animal implume bipes latis unguibus*" ("a featherless two-footed animal with broad nails") should not be a good definition of the name "man," standing for that sort of creatures. For it is the shape, as the leading quality, that seems to determine that species more than a faculty of reasoning, which does not appear at first, and in some never appears at all.

And if this is not granted, I do not know how those who kill what we call malformed births because of an unusual shape, without knowing whether they have a rational soul or not, can be excused from murder. For that can no more be discerned in a well-formed infant than in a malformed one at the

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as soon as born. And who is it has informed us, that a rational soul can inhabit no tenement, unless it has just such a sort of frontispiece; or can join itself to, and inform no sort of body but one that is just of such an outward structure?

3.11.21 Now these leading qualities are best made known by showing, and can hardly be made known otherwise. For the shape of a horse, or cassiowary, will be but rudely and imperfectly imprinted on the mind by words; the sight of the animals doth it a thousand times better: and the idea of the particular colour of gold is not to be got by any description of it, but only by the frequent exercise of the eyes about it, as is evident in those who are used to this metal, who will frequently distinguish true from counterfeit, pure from adulterate, by the sight; where others (who have as good eyes, but yet by use have not got the precise nice idea of that peculiar yellow) shall not perceive any difference.

The like may be said of those other simple ideas, peculiar in their kind to any substance, for which precise ideas there are no peculiar names. The particular ringing sound there is in gold, distinct from the sound of other bodies, has no particular name annexed to it, no more than the particular yellow that belongs to that metal.

3.11.22 *The ideas of their powers best by definition.*—But because many of the simple ideas that make up our specific ideas of substances are powers which lie not obvious to our senses in the things as they ordinarily appear; therefore in the signification of our names of substances, some part of the signification will be better made known by enumerating those simple ideas than by showing the substance itself. For he that to the yellow shining colour of gold got by sight, shall, from my enumerating them, have the ideas of great ductility, fusibility, fixedness, and solubility in aq.

regia, will have a perfecter idea of gold than he can have by seeing a piece of gold, and thereby imprinting in his mind only its obvious qualities. But if the formal constitution of this shining, heavy, ductile thing (from whence all these its properties flow) lay open to our senses, as the formal constitution or essence of a triangle does,

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moment of birth. And who has told us that a rational soul can inhabit no dwelling unless it has exactly that sort of front, or can join itself to and animate no kind of body except one of exactly that outward structure?

Now these leading qualities are best made known by showing, and can hardly be made known any other way. For the shape of a horse or a cassowary will be only roughly and imperfectly impressed on the mind by words; the sight of the animals does it a thousand times better. And the idea of the particular color of gold cannot be got from any description of it, but only by frequently exercising the eyes on it. This is evident in those who are used to this metal: they will often tell true from counterfeit, and pure from adulterated, by sight, where others (who have eyes as good, but have not through practice acquired the precise, fine idea of that peculiar yellow) will not perceive any difference.

The same may be said of those other simple ideas that are peculiar in their kind to some substance, for which precise ideas there are no special names. The particular ringing sound that gold has, distinct from the sound of other bodies, has no particular name attached to it, any more than the particular yellow that belongs to that metal.

The ideas of their powers best by definition.—But many of the simple ideas that make up our specific ideas of substances are powers that are not obvious to our senses in things as they ordinarily appear. So part of the meaning of our names of substances will be better made known by listing those simple ideas than by showing the substance itself. For someone who, in addition to the yellow shining color of gold that he got by sight, also gets from my listing them the ideas of great ductility, fusibility, fixedness, and solubility in aqua regia,

will have a more perfect idea of gold than he can have by seeing a piece of gold and so impressing only its obvious qualities on his mind. But if the formal constitution of this shining, heavy, ductile thing (from which all these properties of it flow) lay open to our senses, as the formal constitution or essence of a triangle does, the meaning of the

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the signification of the word gold might as easily be ascertained as that of triangle.

3.11.23 *A reflection on the knowledge of spirits.*—Hence we may take notice how much the foundation of all our knowledge of corporeal things lies in our senses. For how spirits, separate from bodies (whose knowledge and ideas of these things are certainly much more perfect than ours) know them, we have no notion, no idea at all. The whole extent of our knowledge or imagination reaches not beyond our own ideas, limited to our ways of perception.

Though yet it be not to be doubted that spirits of a higher rank than those immersed in flesh may have as clear ideas of the radical constitution of substances, as we have of a triangle, and so perceive how all their properties and operations flow from thence: but the manner how they come by that knowledge exceeds our conceptions.

3.11.24 4. *Ideas also of substances must be conformable to things.*—But though definitions will serve to explain the names of substances as they stand for our ideas; yet they leave them not without great imperfection as they stand for things. For our names of substances being not put barely for our ideas, but being made use of ultimately to represent things, and so are put in their place; their signification must agree with the truth of things as well as with men's ideas.

And therefore in substances we are not always to rest in the ordinary complex idea, commonly received as the signification of that word, but must go a little farther, and inquire into the nature and properties of the things themselves, and thereby perfect, as much as we can, our ideas of their distinct species; or else learn them from such as are used to that sort of things, and are experienced in them.

For since it is intended their names should stand for such collections of simple ideas as do really exist in things themselves, as well as for the complex idea in other men's minds, which in their ordinary acceptation they stand for: therefore to define their names right, natural history is to be inquired into; and their properties are, with care and examination, to be found out.

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word "gold" could be fixed as easily as that of "triangle."

A reflection on the knowledge of spirits.—From this we can see how much the foundation of all our knowledge of bodily things lies in our senses. We have no notion, no idea at all, of how spirits separate from bodies know these things, though their knowledge and ideas of them are certainly far more perfect than ours. The whole extent of our knowledge or imagination reaches no further than our own ideas, and these are limited to our ways of perceiving.

Still, there is no doubt that spirits of a higher rank than those immersed in flesh may have ideas of the radical constitution of substances as clear as the idea we have of a triangle. They may therefore perceive how all the properties and operations of substances flow from that constitution. But how they come by that knowledge is beyond our conception.

4. *Ideas of substances must also conform to things.*—Definitions will serve to explain the names of substances as they stand for our ideas. But they still leave those names greatly imperfect as they stand for things. Our names of substances are not used merely for our ideas. They are used ultimately to represent things, and so they are put in the place of things. Their signification must therefore agree with the truth of things as well as with men's ideas.

So with substances we must not always rest content with the ordinary complex idea that is commonly accepted as the signification of the word. We must go a little further and inquire into the nature and properties of the things themselves, and in this way perfect our ideas of their distinct species as far as we can. Otherwise we must learn them from people who are used to that sort of thing and experienced in it.

Their names are meant to stand for the collections of simple ideas that really exist in the things themselves, as well as for the complex idea in other men's minds that the names stand for in their ordinary sense. To define these names rightly, therefore, we must look into natural history and find out the properties of things with care and examination.

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For it is not enough, for the avoiding inconveniences in discourse and arguings about natural bodies and substantial things, to have learned, from the propriety of the language, the common, but confused, or very imperfect idea, to which each word is applied, and to keep them to that idea in our use of them; but we must, by acquainting ourselves with the history of that sort of things, rectify and settle our complex idea belonging to each specific name; and in discourse with others (if we find them mistake us) we ought to tell what the complex idea is, that we make such a name stand for.

This is the more necessary to be done by all those who search after knowledge and philosophical verity, in that children, being taught words whilst they have but imperfect notions of things, apply them at random, and without much thinking, and seldom frame determined ideas to be signified by them. Which custom (it being easy, and serving well enough for the ordinary affairs of life and conversation) they are apt to continue when they are men: and so begin at the wrong end, learning words first and perfectly, but make the notions to which they apply those words afterward very overtly. By this means it comes to pass, that men speaking the proper language of their country, i.

e. according to grammar rules of that language, do yet speak very improperly of things themselves; and by their arguing one with another, make but small progress in the discoveries of useful truths, and the knowledge of things as they are to be found in themselves, and not in our imaginations; and it matters not much, for the improvement of our knowledge, how they are called.

3.11.25 *Not easy to be made so.*—It were therefore to be wished, that men, versed in physical inquiries, and acquainted with the several sorts of natural bodies, would set down those simple ideas, wherein they observe the individuals of each sort constantly to agree. This would remedy a great deal of that confusion which comes from several persons applying the same name to a collection of a smaller or greater number of sensible qualities, proportionably as they have been more or less acquainted with, or accurate in examining the

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To avoid trouble in discussions and arguments about natural bodies and substantial things, it is not enough to learn from the usage of the language the common idea to which each word is applied, which is confused or very imperfect, and then to hold the words to that idea when we use them. We must also acquaint ourselves with the history of that sort of thing, and so correct and settle the complex idea belonging to each specific name. And in talking with others, if we find that they misunderstand us, we ought to say what complex idea we make the name stand for.

This is all the more necessary for everyone who searches after knowledge and philosophical truth, because children are taught words while they have only imperfect notions of things. They apply the words at random and without much thought, and they seldom frame determinate ideas for them to signify. This habit is easy and serves well enough for the ordinary business of life and conversation, so they tend to keep it up when they are grown. They begin at the wrong end. They learn the words first and learn them perfectly, and only afterward, and very superficially, do they form the notions to which they apply them. This is how it happens that men who speak their country's language properly—that is,

according to its rules of grammar—still speak very improperly of things themselves. In their arguments with one another they make only small progress in discovering useful truths and in gaining knowledge of things as they are to be found in themselves, and not in our imaginations; and for the improvement of our knowledge it matters little what they are called.

Not easy to make them so.—It would therefore be desirable for men who are versed in natural inquiries, and acquainted with the various sorts of natural bodies, to set down the simple ideas in which they observe the individuals of each sort to agree constantly. This would remedy much of the confusion that comes from different people applying the same name to a collection of sensible qualities. The collection is larger or smaller in proportion as each person is more or less acquainted with the qualities of a sort of things that fall under one name, or more or less exact in examining them.

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qualities of any sort of things which come under one denomination.

But a dictionary of this sort, containing, as it were, a natural history, requires too many hands, as well as too much time, cost, pains, and sagacity, ever to be hoped for; and till that be done, we must content ourselves with such definitions of the names of substances as explain the sense men use them in. And it would be well, where there is occasion, if they would afford us so much.

This yet is not usually done; but men talk to one another, and dispute in words, whose meaning is not agreed between them, out of a mistake that the significations of common words are certainly established, and the precise ideas they stand for perfectly known; and that it is a shame to be ignorant of them. Both which suppositions are false: no names of common complex ideas having so settled determined significations, that they are constantly used for the same precise ideas.

Nor is it a shame for a man not to have a certain knowledge of any thing, but by the necessary ways of attaining it; and so it is no discredit not to know what precise idea any sound stands for in another man's mind, without he declare it to me by some other way than barely using that sound; there being no other way, without such a declaration, certainly to know it.

Indeed, the necessity of communication by language brings men to an agreement in the signification of common words, within some tolerable latitude, that may serve for ordinary conversation: and so a man cannot be supposed wholly ignorant of the ideas which are annexed to words by common use, in a language familiar to him. But common use, being but a very uncertain rule, which reduces itself at last to the ideas of particular men, proves often but a very variable standard.

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But a dictionary of this kind would in effect contain a natural history. It would need too many hands, and too much time, expense, labor, and insight, ever to be hoped for. Until it is done, we must content ourselves with definitions of the names of substances that explain the sense in which men use them. And it would be good if people would give us that much where there is occasion.

Yet this is not usually done. Instead men talk to one another, and dispute in words whose meaning they have not agreed on. They do so because they mistakenly suppose that the significations of common words are firmly established, that the precise ideas the words stand for are perfectly known, and that it is a shame to be ignorant of them. Both these suppositions are false. No names of common complex ideas have significations so settled and determinate that they are always used for the same precise ideas.

Nor is it a shame for a man to lack certain knowledge of anything when he has no access to the necessary ways of attaining it. So it is no discredit not to know what precise idea a sound stands for in another man's mind, unless he declares it to me in some other way than just using that sound. Without such a declaration there is no other way to know it for certain.

It is true that the need to communicate by language brings men to agree on the signification of common words within some tolerable latitude, enough to serve for ordinary conversation. So a man cannot be supposed wholly ignorant of the ideas that common usage attaches to words in a language familiar to him. But common usage is a very uncertain rule. In the end it comes down to the ideas of particular men, and so it often proves a very variable standard.

A DICTIONARY OF PICTURES

Locke proposes small drawings to fix the names of things known by shape, and asks for constant usage.

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But though such a dictionary, as I have above mentioned, will require too much time, cost, and pains, to be hoped for in this age; yet methinks it

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A dictionary such as I mentioned above would take too much time, expense, and labor to be hoped for in this age. Even so, it seems to me not

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is not unreasonable to propose, that words standing for things, which are known and distinguished by their outward shapes, should be expressed by little draughts and prints made of them. A vocabulary made after this fashion would, perhaps, with more ease, and in less time, teach the true signification of many terms, especially in languages of remote countries or ages, and settle truer ideas in men's minds of several things, whereof we read the names in ancient authors, than all the large and laborious comments of learned critics.

Naturalists, that treat of plants and animals, have found the benefit of this way: and he that has had occasion to consult them, will have reason to confess, that he has a clearer idea of apium or ibex, from a little print of that herb or beast, than he could have from a long definition of the names of either of them. And so no doubt he would have of strigil and sistrum, if instead of currycomb and cymbal, which are the English names dictionaries render them by, he could see stamped in the margin small pictures of these instruments, as they were in use among the ancients.

"Toga, tunica, pallium," are words easily translated by gown, coat, and cloak; but we have thereby no more true ideas of the fashion of those habits among the Romans than we have of the faces of the tailors who made them. Such things as these, which the eye distinguishes by their shapes, would be best let into the mind by draughts made of them, and more determine the signification of such words than any other words set for them, or made use of to define them. But this only by the by.

3.11.26 5. *By constancy in their signification.*—Fifthly, if men will not be at the pains to declare the meaning of their words, and definitions of their terms are not to be had; yet this is the least that can be expected, that in all discourses, wherein one man pretends to instruct or convince another, he should use the same word constantly in the same sense: if this were done (which nobody can refuse without great disingenuity,) many of the books extant might be spared; many of the controversies in dispute would be at an end;

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unreasonable to propose that words standing for things known and distinguished by their outward shapes should be expressed by little drawings and prints of them. A vocabulary made in this way might teach the true signification of many terms more easily and in less time, especially in the languages of remote countries or ages. It might also settle truer ideas in men's minds of various things whose names we read in ancient authors than all the large and laborious commentaries of learned critics can.

Naturalists who write on plants and animals have found the benefit of this method. Anyone who has had occasion to consult them will have to admit that a little print of the herb apium or the beast ibex gives him a clearer idea of it than a long definition of either name could. No doubt the same would hold for strigil and sistrum. The English names that dictionaries give for them are "currycomb" and "cymbal." He would understand them better if he could see small pictures of these instruments printed in the margin, showing them as the ancients used them.[47]

"Toga, tunica, pallium" are words easily translated as gown, coat, and cloak. But those translations give us no more true idea of the fashion of those garments among the Romans than we have of the faces of the tailors who made them. Things like these, which the eye distinguishes by their shapes, are best brought into the mind by drawings of them. Drawings would fix the signification of such words better than any other words put in their place or used to define them. But this is only in passing.

5. *By constancy in their signification.*—Fifth: men may not take the trouble to declare the meaning of their words, and definitions of their terms may not be available. Even then, the least that can be expected is that in every discussion where one man claims to instruct or convince another, he should use the same word constantly in the same sense. If this were done (and nobody can refuse it without great dishonesty), many existing books could be spared, and many of the controversies now in dispute would be over. Several of those

47 Apium is celery or parsley, and the ibex a wild mountain goat. The strigil was a curved scraper used by bathers, and the sistrum a rattle used in Egyptian rites.

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several of those great volumes, swoln with ambiguous words, now used in one sense, and by and by in another, would shrink into a very narrow compass; and many of the philosophers (to mention no other) as well as poet's works, might be contained in a nut-shell.

3.11.27 *When the variation is to be explained.*—But after all, the provision of words is so scanty in respect of that infinite variety of thoughts, that men, wanting terms to suit their precise notions, will, notwithstanding their utmost caution, be forced often to use the same word in somewhat different senses.

And though in the continuation of a discourse, or the pursuit of an argument, there can be hardly room to digress into a particular definition, as often as a man varies the signification of any term; yet the import of the discourse will, for the most part, if there be no designed fallacy, sufficiently lead candid and intelligent readers into the true meaning of it: but where that is not sufficient to guide the reader, there it concerns the writer to explain his meaning, and show in what sense he there uses that term.

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great volumes swollen with ambiguous words, used now in one sense and presently in another, would shrink to a very small compass. Many of the works of the philosophers (to mention no others), as well as of the poets, might be contained in a nutshell.

When the variation is to be explained.—But after all, the stock of words is very scanty compared with the infinite variety of thoughts. Men lack terms that fit their precise notions, and so, despite their utmost caution, they will often be forced to use the same word in somewhat different senses.

In the course of a discussion or the pursuit of an argument, there is hardly room to stop for a particular definition every time a man varies the signification of a term. But if there is no deliberate fallacy, the drift of the discussion will usually be enough to lead fair-minded and intelligent readers to the true meaning. Where it is not enough to guide the reader, it is the writer's business to explain his meaning and show in what sense he is using the term in that place.

Book IV: Of Knowledge and Opinion (Chapters I–XIII)

Knowledge as the perception of agreement between ideas: its degrees and extent, its reality, truth, maxims, and our knowledge of ourselves, God and other things.

CHAPTER I. OF KNOWLEDGE IN GENERAL.

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4.1.1	*Our knowledge conversant about our ideas.*—Since the mind, in all its thoughts and reasonings, hath no other immediate object but its own ideas, which it alone does, or can contemplate, it is evident, that our knowledge is only conversant about them.	*Our knowledge is concerned with our ideas.*—In all its thoughts and reasonings, the mind has no other immediate object than its own ideas, which alone it does or can contemplate. It is evident, then, that our knowledge is concerned only with them.
4.1.2	*Knowledge is the perception of the agreement or disagreement of two ideas.*—Knowledge then seems to me to be nothing but the perception of the connexion or agreement, or disagreement and repugnancy of any of our ideas. In this alone it consists. Where this perception is, there is knowledge and where it is not, there, though we may fancy, guess, or believe, yet we always come short of knowledge. For when we know that white is not black, what do we else but perceive that these two ideas do not agree?	*Knowledge is the perception of the agreement or disagreement of two ideas.*—Knowledge, then, seems to me to be nothing but the perception of the connection or agreement, or the disagreement and repugnance, of any of our ideas. It consists in this alone. Where this perception is, there is knowledge. Where it is not, we may fancy, guess, or believe, but we always fall short of knowledge. When we know that white is not black, what else do we do but perceive that these two ideas do not agree?
	when we possess ourselves of the utmost security of the demonstration, that the three angles of a triangle are equal to two right ones, what do we more but perceive, that equality to two right ones, does necessarily agree to, and is inseparable from, the three angles of a triangle?	When we possess the utmost security of the demonstration that the three angles of a triangle are equal to two right angles, what more do we do than perceive that equality to two right angles necessarily agrees with the three angles of a triangle and is inseparable from them?
4.1.3	*This agreement fourfold.*—But to understand a little more distinctly, wherein this agreement or disagreement consists, I think we may reduce it all to these four sorts:	*This agreement is of four kinds.*—To understand a little more distinctly what this agreement or disagreement consists in, I think we may reduce it all to these four sorts:
	1. Identity, or diversity. 2. Relation. 3. Coexistence, or necessary connexion. 4. Real existence.	1. Identity, or diversity. 2. Relation. 3. Coexistence, or necessary connection. 4. Real existence.
4.1.4	1. *Of identity or diversity.*—First, as to the first sort of agreement or disagreement, viz. identity or diversity. It is the first act of the mind, when it has any sentiments or ideas at all, to perceive its ideas; and so far as it perceives them, to know each what it is, and thereby also to perceive their difference, and that one is not another. This is so	1. *Of identity or diversity.*—First, as to the first sort of agreement or disagreement, namely identity or diversity. When the mind has any sentiments or ideas at all, its first act is to perceive them. So far as it perceives them, it knows what each one is, and thereby also perceives their difference, and that one is not another. This is so absolutely neces-

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absolutely necessary, that without it there could be no knowledge, no reasoning, no imagination, no distinct thoughts at all. By this the mind clearly and infallibly perceives each idea to agree with itself, and to be what it is: and all distinct ideas to disagree, i.

e. the one not to be the other; and this it does without pains, labour, or deduction; but at first view, by its natural power of perception and distinction. And though men of art have reduced this into those general rules, what is, is; and, it is impossible for the same thing to be, and not to be; for ready application in all cases, wherein there may be occasion to reflect on it; yet it is certain, that the first exercise of this faculty is about particular ideas.

A man infallibly knows, as soon as ever he has them in his mind, that the ideas he calls white and round, are the very ideas they are, and that they are not other ideas which he calls red or square. Nor can any maxim or proposition in the world make him know it clearer or surer than he did before, and without any such general rule.

This then is the first agreement or disagreement, which the mind perceives in its ideas; which it always perceives at first sight and if there ever happen any doubt about it, it will always be found to be about the names, and not the ideas themselves, whose identity and diversity will always be perceived, as soon and as clearly as the ideas themselves are, nor can it possibly be otherwise.

4.1.5 2. *Relative.*—Secondly, the next sort of agreement or disagreement the mind perceives in any of its ideas, may, I think, be called relative, and is nothing but the perception of the relation between any two ideas, of what kind soever, whether substances, modes, or any other. For since all distinct ideas must eternally be known not to be the same, and so be universally and constantly denied one of another, there could be no room for any positive knowledge at all, if we could not perceive any relation between our ideas, and find out the agreement or disagreement they have one with another, in several ways the mind takes of comparing them.

4.1.6 3. *Of coexistence.*—Thirdly, The third sort of agreement, or disagreement, to be found in our

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sary that without it there could be no knowledge, no reasoning, no imagination, no distinct thoughts at all. By this the mind clearly and infallibly perceives that each idea agrees with itself and is what it is, and that all distinct ideas disagree—that is,

that the one is not the other. The mind does this without pains, labor, or deduction, at first view, by its natural power of perception and distinction. Scholars have reduced this to the general rules "what is, is" and "it is impossible for the same thing to be and not to be," so that they can be applied readily wherever there is occasion to reflect on it. Yet it is certain that this faculty is first exercised on particular ideas.

As soon as a man has the ideas he calls white and round in his mind, he infallibly knows that they are the very ideas they are, and not the other ideas he calls red or square. No maxim or proposition in the world can make him know it more clearly or surely than he knew it before, without any such general rule.

This, then, is the first agreement or disagreement that the mind perceives in its ideas, and it always perceives it at first sight. If any doubt ever arises about it, the doubt will always be found to concern the names and not the ideas themselves. The identity and diversity of the ideas will always be perceived as soon and as clearly as the ideas themselves are, and it cannot possibly be otherwise.

2. *Relative.*—Second, the next sort of agreement or disagreement that the mind perceives in any of its ideas may, I think, be called relative. It is nothing but the perception of the relation between any two ideas of whatever kind, whether substances, modes, or any other. All distinct ideas must eternally be known not to be the same, and so must be universally and constantly denied of one another. There could therefore be no room for any positive knowledge at all if we could not perceive some relation between our ideas, and find out the agreement or disagreement they have with one another in the various ways the mind uses to compare them.

3. *Of coexistence.*—Third, the third sort of agreement or disagreement found in our ideas, which

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ideas, which the perception of the mind is employed about, is coexistence or non-coexistence in the same subject; and this belongs particularly to substances. Thus, when we pronounce concerning gold that is fixed, our knowledge of this truth amounts to no more but this, that fixedness, or a power to remain in the fire unconsumed, is an idea that always accompanies and is joined with that particular sort of yellowness, weight, fusibility, malleableness, and solubility in aqua regia, which make our complex idea, signified by the word gold.

4.1.7 4. *Of real existence.*—Fourthly, the fourth and last sort is that of actual, real existence agreeing to any idea. Within these four sorts of agreement or disagreement is, I suppose, contained all the knowledge we have, or are capable of: for all the inquiries that we can make concerning any of our ideas, all that we know or can affirm concerning them, is, that it is, or is not, the same with some other; that it does, or does not, always coexist with some other idea in the same subject, that it has this or that relation to some other idea; or that it has a real existence without the mind.

Thus blue is not yellow, is of identity: two triangles upon equal bases between two parallels are equal, is of relation: iron is susceptible of magnetical impressions, is of coexistence: God is, is of real existence. Though identity and coexistence are truly nothing but relations, yet they are so peculiar ways of agreement or disagreement of our ideas, that they deserve well to be considered as distinct heads, and not under relation in general; since they are so different grounds of affirmation and negation, as will easily appear to any one, who will but reflect on what is said in several places of this essay.

I should now proceed to examine the several degrees of our knowledge, but that it is necessary first to consider the different acceptations of the word knowledge.

4.1.8 *Knowledge actual or habitual.*—There are several ways wherein the mind is possessed of truth, each of which is called knowledge.

1. There is actual knowledge, which is the present view the mind has of the agreement or

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the mind's perception deals with, is coexistence or non-coexistence in the same subject. This belongs particularly to substances. When we declare of gold that it is fixed, our knowledge of this truth amounts to no more than this. Fixedness, or a power to remain in the fire without being consumed, is an idea that always accompanies, and is joined with, that particular sort of yellowness, weight, fusibility, malleability, and solubility in aqua regia which make up our complex idea signified by the word gold.

4. *Of real existence.*—Fourth, the fourth and last sort is that of actual, real existence agreeing with any idea. All the knowledge we have or are capable of is contained, I suppose, within these four sorts of agreement or disagreement. All the inquiries we can make about any of our ideas, and all that we know or can affirm about them, come to this. An idea is or is not the same as some other. It does or does not always coexist with some other idea in the same subject. It has this or that relation to some other idea. Or it has a real existence outside the mind.

Thus "blue is not yellow" is of identity; "two triangles on equal bases between two parallels are equal" is of relation; "iron is susceptible of magnetic impressions" is of coexistence; "God is" is of real existence. Identity and coexistence are really nothing but relations. Yet they are such distinctive ways in which our ideas agree or disagree that they well deserve to be treated as separate heads, and not under relation in general. They are very different grounds of affirmation and denial, as anyone will easily see who reflects on what is said in several places in this essay.

I would now go on to examine the various degrees of our knowledge, but first I must consider the different senses of the word knowledge.

Knowledge actual or habitual.—There are several ways in which the mind possesses truth, and each of them is called knowledge.

1. There is actual knowledge, which is the present view the mind has of the agreement or disagree-

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disagreement of any of its ideas, or of the relation they have one to another.

2. A man is said to know any proposition, which having been once laid before his thoughts, he evidently perceived the agreement or disagreement of the ideas whereof it consists; and so lodged it in his memory, that whenever that proposition comes again to be reflected on, he, without doubt or hesitation, embraces the right side, assents to, and is certain of the truth of it. This, I think, one may call habitual knowledge: and thus a man may be said to know all those truths which are lodged in his memory, by a foregoing clear and full perception, whereof the mind is assured past doubt, as often as it has occasion to reflect on them.

For our finite understandings being able to think clearly and distinctly but on one thing at once, if men had no knowledge of any more than what they actually thought on, they would all be very ignorant; and he that knew most would know but one truth, that being all he was able to think on at one time.

4.1.9 *Habitual knowledge twofold.*—Of habitual knowledge, there are also, vulgarly speaking, two degrees:

First, the one is of such truths laid up in the memory, as, whenever they occur to the mind, it actually perceives the relation is between those ideas. And this is all those truths whereof we have an intuitive knowledge, where the ideas themselves, by an immediate view, discover their agreement or disagreement one with another.

Secondly, the other is of such truths, whereof the mind having been convinced, it retains the memory of the conviction without the proofs. Thus a man that remembers certainly that he once perceived the demonstration, that the three angles of a triangle are equal to two right ones, is certain that he knows it, because he cannot doubt the truth of it.

In his adherence to a truth, where the demonstration by which it was at first known is forgot, though a man may be thought rather to believe his memory than really to know, and this way of entertaining a truth seemed formerly to me like something between opinion and

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ment of any of its ideas, or of the relation they have to one another.

2. A man is also said to know a proposition if, when it was once laid before his thoughts, he evidently perceived the agreement or disagreement of the ideas it consists of. He then stored it in his memory in such a way that whenever he reflects on that proposition again, he takes the right side without doubt or hesitation, assents to it, and is certain of its truth. This, I think, may be called habitual knowledge. In this way a man may be said to know all the truths stored in his memory by an earlier clear and full perception, and of these the mind is assured beyond doubt whenever it has occasion to reflect on them.

Our finite understandings can think clearly and distinctly of only one thing at a time. If men had no knowledge of anything beyond what they were actually thinking of, they would all be very ignorant. The man who knew most would know only one truth, since that would be all he could think of at one time.

Habitual knowledge is of two kinds.—Habitual knowledge also comes, in common speech, in two degrees:

First, one is of truths stored in the memory in such a way that, whenever they occur to the mind, it actually perceives the relation between those ideas. This covers all the truths of which we have intuitive knowledge, where the ideas themselves, by an immediate view, reveal their agreement or disagreement with one another.

Second, the other is of truths of which the mind was once convinced, and of which it keeps the memory of the conviction without the proofs. Suppose a man remembers for certain that he once perceived the demonstration that the three angles of a triangle are equal to two right angles. He is certain that he knows it, because he cannot doubt its truth.

When a man holds to a truth whose demonstration he has forgotten, though it was by that demonstration that he first knew it, he may be thought to believe his memory rather than really to know. This way of holding a truth once seemed to me to be something between opinion and knowledge: a sort

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knowledge; a sort of assurance which exceeds bare belief, for that relies on the testimony of another: yet upon a due examination I find it comes not short of perfect certainty, and is in effect true knowledge.

That which is apt to mislead our first thoughts into a mistake in this matter is, that the agreement or disagreement of the ideas in this case is not perceived, as it was at first, by an actual view of all the intermediate ideas, whereby the agreement or disagreement of those in the proposition was at first perceived; but by other intermediate ideas, that show the agreement or disagreement of the ideas contained in the proposition whose certainty we remember.

For example, in this proposition, that the three angles of a triangle are equal to two right ones, one who has seen and clearly perceived the demonstration of this truth knows it to be true, when that demonstration is gone out of his mind; so that at present it is not actually in view, and possibly cannot be recollected: but he knows it in a different way from what he did before. The agreement of the two ideas joined in that proposition is perceived, but it is by the intervention of other ideas than those which at first produced that perception. He remembers, i.

e. he knows (for remembrance is but the reviving of some past knowledge) that he was once certain of the truth of this proposition, that the three angles of a triangle are equal to two right ones. The immutability of the same relations between the same immutable things, is now the idea that shows him that if the three angles of a triangle were once equal to two right ones, they will always be equal to two right ones.

And hence he comes to be certain, that what was once true in the case, is always true; what ideas once agreed, will always agree; and consequently what he once knew to be true, he will always know to be true, as long as he can remember that he once knew it. Upon this ground it is, that particular demonstrations in mathematics afford general knowledge.

If then the perception that the same ideas will eternally have the same habitudes and relations, be not a sufficient ground of knowledge, there could be no knowledge of general propositions in mathematics; for no mathematical demonstration

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of assurance that exceeds mere belief, since belief relies on another's testimony. Yet on proper examination I find that it does not fall short of perfect certainty, and is in effect true knowledge.

What tends to mislead our first thoughts on this point is that in this case the agreement or disagreement of the ideas is not perceived as it was at first. At first it was perceived by an actual view of all the intermediate ideas through which the agreement or disagreement of the ideas in the proposition was shown. Now it is perceived through other intermediate ideas, and these show the agreement or disagreement of the ideas contained in the proposition whose certainty we remember.

Take the proposition that the three angles of a triangle are equal to two right angles. Someone who has seen and clearly perceived the demonstration of this truth still knows it to be true after the demonstration has gone out of his mind, so that it is not actually in view and perhaps cannot be recalled. But he knows it in a different way from before. The agreement of the two ideas joined in the proposition is perceived, but through other ideas than those that first produced that perception. He remembers, that is,

he knows (for remembering is only the reviving of some past knowledge) that he was once certain of the truth of this proposition, that the three angles of a triangle are equal to two right angles. The unchangeableness of the same relations between the same unchangeable things is now the idea that shows him this: if the three angles of a triangle were once equal to two right angles, they will always be equal to two right angles.

From this he comes to be certain that what was once true in the case is always true, and that ideas that once agreed will always agree. Consequently, what he once knew to be true he will always know to be true, as long as he can remember that he once knew it. It is on this ground that particular demonstrations in mathematics yield general knowledge.

Suppose, then, that the perception that the same ideas will eternally have the same connections and relations is not a sufficient ground of knowledge. In that case there could be no knowledge of general propositions in mathematics, for every

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would be any other than particular: and when a man had demonstrated any proposition concerning one triangle or circle, his knowledge would not reach beyond that particular diagram. If he would extend it further, he must renew his demonstration in another instance, before he could know it to be true in another like triangle, and so on: by which means one could never come to the knowledge of any general propositions. Nobody, I think, can deny that Mr.

Newton certainly knows any proposition, that he now at any time reads in his book, to be true; though he has not in actual view that admirable chain of intermediate ideas, whereby he at first discovered it to be true. Such a memory as that, able to retain such a train of particulars, may be well thought beyond the reach of human faculties; when the very discovery, perception, and laying together that wonderful connexion of ideas, is found to surpass most readers' comprehension. But yet it is evident, the author himself knows the proposition to be true, remembering he once saw the connexion of those ideas, as certainly as he knows such a man wounded another, remembering that he saw him run him through.

But because the memory is not always so clear as actual perception, and does in all men more or less decay in length of time, this among other differences is one, which shows that demonstrative knowledge is much more imperfect than intuitive, as we shall see in the following chapter.

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mathematical demonstration would be merely particular. When a man had demonstrated a proposition about one triangle or circle, his knowledge would not reach beyond that particular diagram. If he wanted to extend it further, he would have to repeat his demonstration in another instance before he could know the proposition to be true of another similar triangle, and so on. In this way no one could ever arrive at knowledge of any general propositions. Nobody, I think, can deny that

Mr. Newton certainly knows to be true any proposition that he reads at any time in his book, though he does not have in actual view the admirable chain of intermediate ideas by which he first discovered it to be true. A memory able to retain such a train of particulars may well be thought beyond the reach of human faculties, since the very discovery, perception, and putting together of that wonderful connection of ideas is found to surpass the comprehension of most readers. Yet it is evident that the author himself knows the proposition to be true, because he remembers that he once saw the connection of those ideas. He knows it as certainly as he knows that a certain man wounded another, when he remembers seeing him run the other through.[1]

But memory is not always as clear as actual perception, and in all men it decays more or less over time. This is one of several differences showing that demonstrative knowledge is much more imperfect than intuitive knowledge, as we shall see in the following chapter.

DEGREES OF KNOWLEDGE

Knowledge is intuitive, demonstrative, or sensitive, and intuition supplies the certainty of every step of demonstration.

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4.2.1 *Intuitive.*—All our knowledge consisting, as I have said, in the view the mind has of its own ideas, which is the utmost light and greatest certainty we, with our faculties, and in our way of knowledge, are capable of; it may not be amiss to consider a little the degrees of its evidence. The different clearness of our knowledge seems to me to lie in the different way of perception the mind

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Intuitive.—All our knowledge consists, as I have said, in the view the mind has of its own ideas. This is the utmost light and greatest certainty we are capable of with our faculties and in our way of knowing. So it may not be amiss to consider a little the degrees of its evidence. Our knowledge differs in clearness, it seems to me, because the

1 Isaac Newton (1643–1727); "his book" is the *Principia* (1687), which Locke greatly admired.

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has of the agreement or disagreement of any of its ideas.

For if we will reflect on our own ways of thinking, we shall find that sometimes the mind perceives the agreement or disagreement of two ideas immediately by themselves, without the intervention of any other: and this, I think, we may call intuitive knowledge. For in this the mind is at no pains of proving or examining, but perceives the truth, as the eye doth light, only by being directed towards it. Thus the mind perceives that white is not black, that a circle is not a triangle, that three are more than two, and equal to one and two.

Such kind of truths the mind perceives at the first sight of the ideas together, by bare intuition, without the intervention of any other idea; and this kind of knowledge is the clearest and most certain that human frailty is capable of. This part of knowledge is irresistible, and like bright sunshine, forces itself immediately to be perceived, as soon as ever the mind turns its view that way; and leaves no room for hesitation, doubt, or examination, but the mind is presently filled with the clear light of it.

It is on this intuition that depends all the certainty and evidence of all our knowledge; which certainty every one finds to be so great, that he cannot imagine, and therefore not require a greater: for a man cannot conceive himself capable of a greater certainty, than to know that any idea in his mind is such as he perceives it to be; and that two ideas, wherein he perceives a difference, are different, and not precisely the same. He that demands a greater certainty than his, demands he knows not what, and shows only that he has a mind to be a sceptic, without being able to be so.

Certainty depends so wholly on this intuition, that in the next degree of knowledge, which I call demonstrative, this intuition is necessary in all the connexions of the intermediate ideas, without which we cannot attain knowledge and certainty.

4.2.2 *Demonstrative.*—The next degree of knowledge is, where the mind perceives the agreement or disagreement of any ideas, but not immediately. Though wherever the mind perceives the agreement or disagreement of any of its ideas,

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mind perceives the agreement or disagreement of its ideas in different ways.

If we reflect on our own ways of thinking, we shall find that sometimes the mind perceives the agreement or disagreement of two ideas immediately, by the ideas themselves, without the intervention of any other. This, I think, we may call intuitive knowledge. Here the mind is spared the trouble of proving or examining. It perceives the truth as the eye perceives light, simply by being turned toward it. In this way the mind perceives that white is not black, that a circle is not a triangle, and that three is more than two and equal to one and two.

The mind perceives truths of this kind at first sight of the ideas together, by bare intuition, without the intervention of any other idea. This kind of knowledge is the clearest and most certain that human frailty is capable of. This part of knowledge is irresistible. Like bright sunshine, it forces itself to be perceived immediately, as soon as the mind turns its view that way. It leaves no room for hesitation, doubt, or examination, and the mind is at once filled with its clear light.

All the certainty and evidence of all our knowledge depends on this intuition. Everyone finds this certainty so great that he cannot imagine a greater, and therefore cannot require one. A man cannot conceive himself capable of greater certainty than to know that an idea in his mind is such as he perceives it to be, and that two ideas in which he perceives a difference are different and not precisely the same. Whoever demands greater certainty than this demands he knows not what. He shows only that he would like to be a skeptic without being able to be one.

Certainty depends so wholly on this intuition that it is necessary even in the next degree of knowledge, which I call demonstrative. There intuition is needed in every connection between the intermediate ideas, and without it we cannot attain knowledge and certainty.

Demonstrative.—The next degree of knowledge is where the mind perceives the agreement or disagreement of any ideas, but not immediately. Wherever the mind perceives the agreement or disagreement of any of its ideas, there is certain

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there be certain knowledge; yet it does not always happen that the mind sees that agreement or disagreement which there is between them, even where it is discoverable: and in that case remains in ignorance, and at most gets no farther than a probable conjecture. The reason why the mind cannot always perceive presently the agreement or disagreement of two ideas is, because those ideas, concerning whose agreement or disagreement the inquiry is made, cannot by the mind be so put together as to show it.

In this case, then, when the mind cannot so bring its ideas together, as by their immediate comparison, and as it were juxta-position, or application one to another, to perceive their agreement or disagreement, it is fain, by the intervention of other ideas, (one or more, as it happens) to discover the agreement or disagreement which it searches; and this is that which we call reasoning.

Thus the mind being willing to know the agreement or disagreement in bigness between the three angles of a triangle and two right ones, cannot by an immediate view and comparing them do it: because the three angles of a triangle cannot be brought at once, and be compared with any one or two angles: and so of this the mind has no immediate, no intuitive knowledge. In this case the mind is fain to find out some other angles, to which the three angles of a triangle have an equality; and, finding those equal to two right ones, comes to know their equality to two right ones.

4.2.3 *Depends on proofs.*—Those intervening ideas which serve to show the agreement of any two others, are called proofs; and where the agreement and disagreement is by this means plainly and clearly perceived, it is called demonstration, it being shown to the understanding, and the mind made to see that it is so. A quickness in the mind to find out these intermediate ideas (that shall discover the agreement or disagreement of any other) and to apply them right is, I suppose, that which is called sagacity.

4.2.4 *But not so easy.*—This knowledge by intervening proofs, though it be certain, yet the evidence of it is not altogether so clear and bright, nor the assent so ready, as in intuitive knowledge. For

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knowledge. Yet the mind does not always see the agreement or disagreement that exists between them, even where it could be discovered. In that case it remains ignorant, and at most gets no further than a probable conjecture. The mind cannot always perceive at once the agreement or disagreement of two ideas, because it cannot always put those ideas together in a way that shows it.

Sometimes, then, the mind cannot bring its ideas together so as to perceive their agreement or disagreement by immediate comparison, placing them side by side, as it were, or laying one against another. In that case it is obliged to discover the agreement or disagreement it is looking for through the intervention of other ideas, one or more as it happens. This is what we call reasoning.

Suppose the mind wants to know whether the three angles of a triangle agree or disagree in size with two right angles. It cannot find this out by an immediate view and comparison, because the three angles of a triangle cannot be brought together at once and compared with any one or two angles. So the mind has no immediate, intuitive knowledge of it. In this case the mind has to find some other angles to which the three angles of a triangle are equal. When it finds that those are equal to two right angles, it comes to know that the three angles of the triangle are equal to two right angles.

Depends on proofs.—The intervening ideas that serve to show the agreement of any two others are called proofs. Where the agreement or disagreement is plainly and clearly perceived by this means, it is called demonstration, since it is shown to the understanding and the mind is made to see that it is so. Quickness of mind in finding these intermediate ideas, which reveal the agreement or disagreement of other ideas, and in applying them rightly is, I suppose, what is called sagacity.

But not so easy.—This knowledge by intervening proofs is certain, but its evidence is not quite so clear and bright, nor the assent so ready, as in intuitive knowledge. In demonstration the mind

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though, in demonstration, the mind does at last perceive the agreement or disagreement of the ideas it considers; yet it is not without pains and attention: there must be more than one transient view to find it. A steady application and pursuit are required to this discovery: and there must be a progression by steps and degrees, before the mind can in this way arrive at certainty, and come to perceive the agreement or repugnancy between two ideas that need proofs, and the use of reason to show it.

4.2.5 *Not without precedent doubt.*—Another difference between intuitive and demonstrative knowledge is, that though in the latter all doubt be removed, when by the intervention of the intermediate ideas the agreement or disagreement is perceived; yet before the demonstration there was a doubt, which in intuitive knowledge cannot happen to the mind, that has its faculty of perception left to a degree capable of distinct ideas, no more than it can be a doubt to the eye (that can distinctly see white and black) whether this ink and this paper be all of a colour.

If there be sight in the eyes, it will at first glimpse, without hesitation, perceive the words printed on this paper different from the colour of the paper: and so if the mind have the faculty of distinct perceptions, it will perceive the agreement or disagreement of those ideas that produce intuitive knowledge. If the eyes have lost the faculty of seeing, or the mind of perceiving, we in vain inquire after the quickness of sight in one, or clearness of perception in the other.

4.2.6 *Not so clear.*—It is true, the perception produced by demonstration is also very clear, yet it is often with a great abatement of that evident lustre and full assurance that always accompany that which I call intuitive; like a face reflected by several mirrors one to another, where, as long as it retains the similitude and agreement with the object, it produces a knowledge; but it is still in every successive reflection, with a lessening of that perfect clearness and distinctness which is in the first; till at last, after many removes, it has a great mixture of dimness, and is not at first sight so knowable, especially to weak eyes. Thus it is with knowledge made out by a long train of proof.

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does at last perceive the agreement or disagreement of the ideas it is considering, but not without effort and attention. A single passing glance is not enough to find it. This discovery requires steady application and pursuit. The mind must advance by steps and degrees before it can arrive at certainty in this way. Only then does it come to perceive the agreement or repugnance between two ideas when showing it needs proofs and the use of reason.

Not without prior doubt.—Another difference between intuitive and demonstrative knowledge is this. In demonstrative knowledge all doubt is removed once the agreement or disagreement is perceived through the intermediate ideas, but before the demonstration there was a doubt. In intuitive knowledge that cannot happen to a mind whose faculty of perception remains capable of distinct ideas. It is no more possible there than it is for an eye that can see white and black distinctly to doubt whether this ink and this paper are the same color.

If there is sight in the eyes, they will perceive at the first glance, without hesitation, that the words printed on this paper differ in color from the paper. In the same way, if the mind has the faculty of distinct perception, it will perceive the agreement or disagreement of the ideas that produce intuitive knowledge. If the eyes have lost the faculty of seeing, or the mind that of perceiving, it is useless to ask about quickness of sight in the one or clearness of perception in the other.

Not so clear.—It is true that the perception produced by demonstration is also very clear. Yet it often falls far short of the evident brilliance and full assurance that always accompany what I call intuitive knowledge. It is like a face reflected from one mirror to another through several mirrors. As long as the image keeps its likeness to the object, it produces knowledge. But with each successive reflection it loses some of the perfect clearness and distinctness of the first. At last, after many removes, it is much mixed with dimness and cannot be recognized at first sight, especially by weak eyes. So it is with knowledge worked out by a long chain of proof.

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Each step must have intuitive evidence.—Now in every step, reason makes in demonstrative knowledge, there is an intuitive knowledge of that agreement or disagreement it seeks with the next intermediate idea, which it uses as a proof: for if it were not so, that yet would need a proof; since without the perception of such agreement or disagreement, there is no knowledge produced. If it be perceived by itself, it is intuitive knowledge: if it cannot be perceived by itself, there is need of some intervening idea, as a common measure to show their agreement or disagreement.

By which it is plain, that every step in reasoning that produces knowledge has intuitive certainty; which when the mind perceives, there is no more required, but to remember it, to make the agreement or disagreement of the ideas, concerning which we inquire, visible and certain. So that to make any thing a demonstration, it is necessary to perceive the immediate agreement of the intervening ideas, whereby the agreement or disagreement of the two ideas under examination (whereof the one is always the first, and the other the last in the account) is found.

This intuitive perception of the agreement or disagreement of the intermediate ideas, in each step and progression of the demonstration, must also be carried exactly in the mind, and a man must be sure that no part is left out; which, because in long deductions, and the use of many proofs, the memory does not always so readily and exactly retain; therefore it comes to pass, that this is more imperfect than intuitive knowledge, and men embrace often falsehood for demonstrations.

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Each step must have intuitive evidence.—In every step that reason takes in demonstrative knowledge, there is an intuitive knowledge of the agreement or disagreement it seeks with the next intermediate idea, which it uses as a proof. If this were not so, that step would itself need a proof, since without the perception of such agreement or disagreement no knowledge is produced. If the agreement is perceived by itself, it is intuitive knowledge. If it cannot be perceived by itself, some intervening idea is needed as a common measure to show the agreement or disagreement.

From this it is plain that every step in reasoning that produces knowledge has intuitive certainty. Once the mind perceives it, nothing more is needed than to remember it in order to make visible and certain the agreement or disagreement of the ideas we are inquiring about. To make anything a demonstration, then, the mind must perceive the immediate agreement of the intervening ideas. Through these it finds the agreement or disagreement of the two ideas under examination, one of which always comes first in the reckoning and the other last.

This intuitive perception of the agreement or disagreement of the intermediate ideas, at each step and advance of the demonstration, must also be carried accurately in the mind, and a man must be sure that no part has been left out. In long deductions that use many proofs, the memory does not always retain all this readily and accurately. So it happens that this knowledge is more imperfect than intuitive knowledge, and men often take falsehoods for demonstrations.

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4.2.8	*Hence the mistake "ex præcognitis et præconcessis."*—The necessity of this intuitive knowledge, in each step of scientifical or demonstrative reasoning, gave occasion, I imagine, to that mistaken axiom, that all reasoning was "ex præcognitis et præconcessis;" which how far it is mistaken, I shall have occasion to show more at large, when I come to consider propositions, and particularly those propositions which are called maxims; and to show that it is by a mistake that they are supposed to be the foundations of all our knowledge and reasonings.	*Hence the mistake "ex praecognitis et praeconcessis."*—Each step of scientific or demonstrative reasoning needs this intuitive knowledge. That need gave rise, I imagine, to the mistaken axiom that all reasoning proceeds "ex praecognitis et praeconcessis." I shall show more fully how far this axiom is mistaken when I come to consider propositions, particularly the propositions called maxims. There I shall show that it is a mistake to suppose that maxims are the foundations of all our knowledge and reasonings.[2]
4.2.9	*Demonstration not limited to quantity.*—It has been generally taken for granted, that mathematics alone are capable of demonstrative certainty but to have such an agreement or disagreement, as may intuitively be perceived, being, as I imagine, not the privilege of the ideas of number, extension, and figure alone, it may possibly be the want of due method and application in us, and not of sufficient evidence in things, that demonstration has been thought to have so little to do in other parts of knowledge, and been scarce so much as aimed at by any but mathematicians. For whatever ideas we have, wherein the mind can perceive the immediate agreement or disagreement that is between them, there the mind is capable of intuitive knowledge; and where it can perceive the agreement or disagreement of any two ideas, by an intuitive perception of the agreement or disagreement they have with any intermediate ideas, there the mind is capable of demonstration, which is not limited to ideas of extension, figure, number, and their modes.	*Demonstration not limited to quantity.*—It has generally been taken for granted that mathematics alone is capable of demonstrative certainty. But having an agreement or disagreement that can be perceived intuitively is not, I imagine, a privilege of the ideas of number, extension, and figure alone. So it may be our lack of proper method and application, and not any lack of sufficient evidence in things, that has made demonstration seem to have so little to do with other parts of knowledge, and made it scarcely attempted by anyone but mathematicians. Wherever we have ideas whose immediate agreement or disagreement the mind can perceive, the mind is capable of intuitive knowledge. And wherever it can perceive the agreement or disagreement of two ideas through an intuitive perception of the agreement or disagreement they have with some intermediate ideas, the mind is capable of demonstration. Demonstration is not limited to ideas of extension, figure, number, and their modes.
4.2.10	*Why it has been so thought.*—The reason why it has been generally sought for, and supposed to be only in those, I imagine has been not only the general usefulness of those sciences; but because, in comparing their equality or excess, the modes of numbers have every the least difference very clear and perceivable: and though in extension every the least excess is not so perceptible, yet the mind has found out ways to examine and discover	*Why it has been thought so.*—Demonstration has generally been sought, and supposed to exist, only in these ideas. The reason, I imagine, has been partly the general usefulness of those sciences. It has also been that when the modes of numbers are compared for equality or excess, even the smallest difference is very clear and perceptible. In extension not every smallest excess is so perceptible, but the mind has found ways to examine and discover by demonstration the exact equality of two

2 Latin: "from things already known and already granted," a scholastic axiom derived from Aristotle's *Posterior Analytics*. Locke returns to maxims in 4.7.

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demonstratively, the just equality of two angles, or extensions, or figures: and both these, i.

e. numbers and figures, can be set down by visible and lasting marks, wherein the ideas under consideration are perfectly determined; which for the most part they are not, where they are marked only by names and words.

4.2.11 But in other simple ideas, whose modes and differences are made and counted by degrees, and not quantity, we have not so nice and accurate a distinction of their differences, as to perceive and find ways to measure their just equality, or the least differences. For those other simple ideas, being appearances or sensations, produced in us by the size, figure, number, and motion of minute corpuscles singly insensible; their different degrees also depend upon the variation of some or all of those causes: which since it cannot be observed by us in particles of matter, whereof each is too subtile to be perceived, it is impossible for us to have any exact measures of the different degrees of these simple ideas.

For supposing the sensation or idea we name whiteness, be produced in us by a certain number of globules, which, having a verticity about their own centres, strike upon the retina of the eye with a certain degree of rotation, as well as progressive swiftness; it will hence easily follow, that the more the superficial parts of any body are so ordered, as to reflect the greater number of globules of light, and to give them the proper rotation, which is fit to produce this sensation of white in us, the more white will that body appear, that from an equal space sends to the retina the greater number of such corpuscles, with that peculiar sort of motion.

I do not say, that the nature of light consists in very small round globules, nor of whiteness in such a texture of parts as gives a certain rotation to these globules, when it reflects them; for I am not now treating physically of light or colours but this, I think, I may say, that I cannot (and I would be glad any one would make intelligible that he did) conceive how bodies without us can any ways affect our senses, but by the immediate contact of the sensible bodies themselves, as in

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angles, or extensions, or figures. And both of these —that is,

numbers and figures—can be set down in visible and lasting marks, in which the ideas under consideration are perfectly determined. For the most part the ideas are not so determined when they are marked only by names and words.

But other simple ideas have modes and differences that are made and counted by degrees and not by quantity. We cannot distinguish their differences finely and accurately enough to perceive them, or to find ways of measuring their exact equality or their smallest differences. Those other simple ideas are appearances or sensations produced in us by the size, figure, number, and motion of minute corpuscles, each of them imperceptible on its own. Their different degrees likewise depend on variation in some or all of those causes. We cannot observe that variation in particles of matter, since each particle is too fine to be perceived. It is therefore impossible for us to have any exact measures of the different degrees of these simple ideas.

Suppose that the sensation or idea we call whiteness is produced in us by a certain number of globules, spinning about their own centers, which strike the retina of the eye with a certain degree of rotation as well as forward speed. It will easily follow that the more the surface parts of a body are arranged so as to reflect a greater number of globules of light, and to give them the proper rotation for producing this sensation of white in us, the whiter that body will appear. The body that sends to the retina the greater number of such corpuscles, with that particular sort of motion, from an equal area will appear whiter.[3]

I do not say that the nature of light consists in very small round globules. Nor do I say that whiteness consists in a texture of parts that gives these globules a certain rotation when it reflects them, for I am not now treating light or colors as a natural philosopher. But this much, I think, I may say. I cannot conceive how bodies outside us can in any way affect our senses except in two ways, and I would be glad if anyone would make intelligible that he could. One is the immediate contact of the

3 The theory of spinning globules of light comes from Descartes's optics.

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tasting and feeling, or the impulse of some insensible particles coming from them, as in seeing, hearing, and smelling; by the different impulse of which parts, caused by their different size, figure, and motion, the variety of sensations is produced in us.

4.2.12 Whether then they be globules, or no,—or whether they have a verticity about their own centres that produces the idea of whiteness in us, —this is certain, that the more particles of light are reflected from a body, fitted to give them that peculiar motion, which produces the sensation of whiteness in us,—and possibly, too, the quicker that peculiar motion is,—the whiter does the body appear from which the greater number are reflected, as is evident in the same piece of paper put in the sunbeams; in the shade, and in a dark hole; in each of which it will produce in us the idea of whiteness in far different degrees.

4.2.13 Not knowing, therefore, what number of particles, nor what motion of them is fit to produce any precise degree of whiteness, we cannot demonstrate the certain equality of any two degrees of whiteness, because we have no certain standard to measure them by, nor means to distinguish every the least real difference, the only help we have being from our senses, which in this point fail us. But where the difference is so great as to produce in the mind clearly distinct ideas, whose differences can be perfectly retained, there these ideas or colours, as we see in different kinds, as blue and red, are as capable of demonstration as ideas of number and extension.

What I have here said of whiteness and colours, I think, holds true in all secondary qualities, and their modes.

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sensible bodies themselves, as in tasting and feeling. The other is the impulse of some imperceptible particles coming from them, as in seeing, hearing, and smelling. The variety of sensations is produced in us by the different impulses of these particles, which are caused by their different size, figure, and motion.

Whether, then, they are globules or not, and whether or not they spin about their own centers in a way that produces the idea of whiteness in us, this much is certain. The more particles of light a body reflects that are fitted to give them the peculiar motion that produces the sensation of whiteness in us (and possibly, too, the quicker that peculiar motion is), the whiter that body appears. This is evident with the same piece of paper placed in the sunbeams, in the shade, and in a dark hole. In each of these places it will produce in us the idea of whiteness in very different degrees.

Since we do not know what number of particles, or what motion of them, is fit to produce any precise degree of whiteness, we cannot demonstrate the exact equality of any two degrees of whiteness. We have no certain standard to measure them by, and no means of distinguishing even the smallest real difference. The only help we have comes from our senses, and on this point they fail us. But where the difference is great enough to produce clearly distinct ideas in the mind, whose differences can be perfectly retained, these ideas or colors are as capable of demonstration as ideas of number and extension. We see this in different kinds of color, such as blue and red.

What I have said here about whiteness and colors holds true, I think, of all secondary qualities and their modes.

SENSITIVE KNOWLEDGE

Our perception of things actually present to the senses goes beyond probability, and dreams do not undermine it.

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4.2.14 *Sensitive knowledge of particular existence.*—These two, viz. intuition and demonstration, are the degrees of our knowledge; whatever comes short of one of these, with what assurance soever embraced, is but faith, or opinion, but not knowledge, at least in all general truths. There is,

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Sensitive knowledge of particular existence.—These two, namely intuition and demonstration, are the degrees of our knowledge. Whatever falls short of one of these, however confidently it is embraced, is only faith or opinion and not knowledge, at least in all general truths. There is, indeed, another per-

indeed, another perception of the mind, employed about the particular existence of finite beings without us; which going beyond bare probability, and yet not reaching perfectly to either of the foregoing degrees of certainty, passes under the name of knowledge. There can be nothing more certain than that the idea we receive from an external object is in our minds; this is intuitive knowledge.

But whether there be any thing more than barely that idea in our minds, whether we can thence certainly infer the existence of any thing without us, which corresponds to that idea, is that whereof some men think there may be a question made; because men may have such ideas in their minds, when no such thing exists, no such object affects their senses.

But yet here, I think, we are provided with an evidence, that puts us past doubting: for I ask any one, whether he be not invincibly conscious to himself of a different perception, when he looks on the sun by day, and thinks on it by night; when he actually tastes wormwood, or smells a rose, or only thinks on that savour or odour? We as plainly find the difference there is between an idea revived in our minds by our own memory, and actually coming in our minds by our senses, as we do between any two distinct ideas.

If any one say, a dream may do the same thing, and all these ideas may be produced in us without any external objects; he may please to dream that I make him this answer; 1. That it is no great matter, whether I remove this scruple or no: where all is but dream, reasoning and arguments are of no use, truth and knowledge nothing. 2. That I believe he will allow a very manifest difference between dreaming of being in the fire, and being actually in it.

But yet, if he be resolved to appear so sceptical as to maintain, that what I call being actually in the fire is nothing but a dream, and we cannot thereby certainly know that any such thing as fire actually exists without us; I answer, that we certainly finding that pleasure or pain follows upon the application of certain objects to us, whose existence we perceive, or dream that we perceive, by our senses; this certainty is as great

ception of the mind, concerned with the particular existence of finite beings outside us. It goes beyond mere probability, and yet it does not fully reach either of the foregoing degrees of certainty. It passes under the name of knowledge. Nothing can be more certain than that the idea we receive from an external object is in our minds. This is intuitive knowledge.

But is there anything more than just that idea in our minds? Can we infer from it with certainty the existence of anything outside us that corresponds to that idea? Some people think this can be questioned, because people may have such ideas in their minds when no such thing exists and no such object affects their senses.

Yet here, I think, we are provided with evidence that puts us beyond doubt. I ask anyone whether he is not irresistibly aware of a different perception when he looks at the sun by day and when he thinks of it by night. Is it not different when he actually tastes wormwood or smells a rose, and when he only thinks of that taste or smell? We find the difference between an idea revived in our minds by our own memory and an idea actually coming into our minds through our senses as plainly as we find the difference between any two distinct ideas.

Someone may say that a dream may do the same thing, and that all these ideas may be produced in us without any external objects. If so, he may please to dream that I give him this answer. 1. It does not much matter whether I remove this doubt or not. Where everything is only a dream, reasoning and arguments are useless, and truth and knowledge are nothing. 2. I believe he will grant that there is a very obvious difference between dreaming of being in the fire and actually being in it.

But suppose he is determined to appear so skeptical as to maintain that what I call actually being in the fire is nothing but a dream, and that we therefore cannot know for certain that any such thing as fire actually exists outside us. I answer that we find for certain that pleasure or pain follows when certain objects are applied to us, objects whose existence we perceive, or dream that we perceive, by our senses. This certainty is as great as our happi-

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as our happiness or misery, beyond which we have no concernment to know, or to be.

So that, I think, we may add to the two former sorts of knowledge, this also, of the existence of particular external objects, by that perception and consciousness we have of the actual entrance of ideas from them, and allow these three degrees of knowledge, viz. intuitive, demonstrative, and sensitive in each of which there are different degrees and ways of evidence and certainty.

4.2.15 *Knowledge not always clear, where the ideas are so.*— But since our knowledge is founded on, and employed about, our ideas only, will it not follow from thence, that it is conformable to our ideas; and that where our ideas are clear and distinct, or obscure and confused, our knowledge will be so too? To which I answer, no: for our knowledge consisting in the perception of the agreement or disagreement of any two ideas, its clearness or obscurity consists in the clearness or obscurity of that perception, and not in the clearness or obscurity of the ideas themselves; v.

g. a man that has as clear ideas of the angles of a triangle, and of equality to two right ones, as any mathematician in the world, may yet have but a very obscure perception of their agreement, and so have but a very obscure knowledge of it. But ideas, which by reason of their obscurity or otherwise are confused, cannot produce any clear or distinct knowledge; because as far as any ideas are confused, so far the mind cannot perceive clearly, whether they agree or disagree Or to express the same thing in a way less apt to be misunderstood; he that hath not determined ideas to the words he uses, cannot make propositions of them, of whose truth he can be certain.

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ness or misery, and beyond that we have no concern either to know or to be.

So I think we may add this to the two former sorts of knowledge: knowledge of the existence of particular external objects, by the perception and consciousness we have of the actual entrance of ideas from them. We may then allow these three degrees of knowledge, namely intuitive, demonstrative, and sensitive. In each of them there are different degrees and kinds of evidence and certainty.

Knowledge not always clear where the ideas are.—Our knowledge is founded on our ideas and concerned with them only. Won't it follow, then, that our knowledge matches our ideas, so that where our ideas are clear and distinct, or obscure and confused, our knowledge will be so too? I answer: no. Our knowledge consists in the perception of the agreement or disagreement of any two ideas. So its clearness or obscurity consists in the clearness or obscurity of that perception, and not in the clearness or obscurity of the ideas themselves. For example,

a man may have ideas of the angles of a triangle, and of equality to two right angles, as clear as any mathematician in the world, and still have only a very obscure perception of their agreement, and so only a very obscure knowledge of it. But ideas that are confused, whether through obscurity or for some other reason, cannot produce any clear or distinct knowledge. To the extent that any ideas are confused, the mind cannot perceive clearly whether they agree or disagree. Or, to put the same thing in a way less likely to be misunderstood: someone who has not attached determinate ideas to the words he uses cannot make propositions out of them whose truth he can be certain of.

THE EXTENT OF HUMAN KNOWLEDGE

Knowledge reaches no farther than our ideas, and falls short even of them.

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4.3.1 Knowledge, as has been said, lying in the perception of agreement or disagreement of any of our ideas, it follows from hence, that,

1. *No farther than we have ideas.*—First, we can have knowledge no farther than we have ideas.

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Knowledge, as has been said, lies in the perception of the agreement or disagreement of any of our ideas. From this it follows that:

1. *No farther than we have ideas.*—First, we can have knowledge no farther than we have ideas.

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4.3.2 2. *No farther than we can perceive their agreement or disagreement.*—Secondly, that we can have no knowledge farther than we can have perception of their agreement or disagreement. Which perception being, 1. Either by intuition, or the immediate comparing any two ideas; or, 2. By reason, examining the agreement or disagreement of two ideas, by the intervention of some others; or, 3. By sensation, perceiving the existence of particular things: hence it also follows,

4.3.3 3. *Intuitive knowledge extends itself not to all the relations of all our ideas.*—Thirdly, that we cannot have an intuitive knowledge that shall extend itself to all our ideas, and all that we would know about them; because we cannot examine and perceive all the relations they have one to another, by juxta-position, or an immediate comparison one with another.

Thus having the ideas of an obtuse and an acute angled triangle, both drawn from equal bases, and between parallels, I can, by intuitive knowledge, perceive the one not to be the other, but cannot that way know whether they be equal or no: because their agreement or disagreement in equality can never be perceived by an immediate comparing them: the difference of figure makes their parts incapable of an exact immediate application; and therefore there is need of some intervening qualities to measure them by, which is demonstration, or rational knowledge.

4.3.4 4. *Nor demonstrative knowledge.*—Fourthly, it also follows, from what is above observed, that our rational knowledge cannot reach to the whole extent of our ideas; because between two different ideas we would examine, we cannot always find such mediums, as we can connect one to another with an intuitive knowledge, in all the parts of the deduction; and wherever that fails, we come short of knowledge and demonstration.

4.3.5 5. *Sensitive knowledge narrower than either.*—Fifthly, sensitive knowledge reaching no farther than the existence of things actually present to our senses, is yet much narrower than either of the former.

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2. *No farther than we can perceive their agreement or disagreement.*—Second, we can have no knowledge farther than we can perceive their agreement or disagreement. This perception comes in one of three ways. 1. By intuition, the immediate comparison of any two ideas. 2. By reason, examining the agreement or disagreement of two ideas through the intervention of some others. 3. By sensation, perceiving the existence of particular things. Hence it also follows:

3. *Intuitive knowledge does not extend to all the relations of all our ideas.*—Third, we cannot have an intuitive knowledge that extends to all our ideas and to everything we would like to know about them. We cannot examine and perceive all the relations they have to one another by juxtaposition, that is, by comparing them immediately with one another.

Take, for instance, the ideas of an obtuse-angled triangle and an acute-angled triangle, both drawn on equal bases and between parallels. I can perceive by intuitive knowledge that the one is not the other. But I cannot know in that way whether they are equal or not, because their agreement or disagreement in equality can never be perceived by comparing them immediately. The difference in shape means their parts cannot be laid exactly and immediately against each other. So we need some intervening qualities to measure them by, and that is demonstration, or rational knowledge.

4. *Nor demonstrative knowledge.*—Fourth, it also follows from what was observed above that our rational knowledge cannot reach the whole extent of our ideas. Between two different ideas that we would like to examine, we cannot always find intermediate ideas that we can connect to one another with intuitive knowledge at every step of the deduction. Wherever that fails, we fall short of knowledge and demonstration.

5. *Sensitive knowledge narrower than either.*—Fifth, sensitive knowledge reaches no farther than the existence of things actually present to our senses, and so it is much narrower still than either of the former.

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6. *Our knowledge therefore narrower than our ideas.*— From all which it is evident, that the extent of our knowledge comes not only short of the reality of things, but even of the extent of our own ideas.

Though our knowledge be limited to our ideas, and cannot exceed them either in extent or perfection; and though these be very narrow bounds, in respect of the extent of all being, and far short of what we may justly imagine to be in some even created understandings, not tied down to the dull and narrow information which is to be received from some few, and not very acute ways of perception, such as are our senses; yet it would be well with us if our knowledge were but as large as our ideas, and there were not many doubts and inquiries concerning the ideas we have, whereof we are not, nor I believe ever shall be, in this world, resolved.

Nevertheless, I do not question but that human knowledge, under the present circumstances of our beings and constitutions, may be carried much farther than it hitherto has been, if men would sincerely, and with freedom of mind, employ all that industry and labour of thought, in improving the means of discovering truth, which they do for the colouring or support of falsehood, to maintain a system, interest, or party, they are once engaged in.

But yet, after all, I think I may without injury to human perfection, be confident, that our knowledge would never reach to all we might desire to know concerning those ideas we have; nor be able to surmount all the difficulties, and resolve all the questions that might arise concerning any of them. We have the ideas of a square, a circle, and equality; and yet, perhaps, shall never be able to find a circle equal to a square, and certainly know that it is so.

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6. *Our knowledge therefore narrower than our ideas.*— From all this it is evident that the extent of our knowledge falls short not only of the reality of things but even of the extent of our own ideas.

Our knowledge is limited to our ideas and cannot exceed them in either extent or perfection. These are very narrow bounds compared with the extent of all being. They fall far short of what we may reasonably imagine in some understandings, even created ones, that are not tied down to the dull and narrow information we receive through a few not very sharp ways of perception, such as our senses. Yet it would be well with us if our knowledge were only as large as our ideas. As it is, there are many doubts and questions about the ideas we do have that we have not resolved, and that I believe we never shall resolve in this world.

Nevertheless, I do not doubt that human knowledge, under the present circumstances of our being and constitution, might be carried much farther than it has been so far. That would happen if people would sincerely and with a free mind devote to improving the means of discovering truth all the industry and labor of thought that they now spend on dressing up or propping up falsehood, in order to maintain some system, interest, or party they have once committed themselves to.

But after all, I think I may be confident, without any slight to human perfection, that our knowledge would never reach everything we might wish to know about the ideas we have. Nor would it be able to overcome all the difficulties and resolve all the questions that might arise about any of them. We have the ideas of a square, a circle, and equality. And yet perhaps we shall never be able to find a circle equal to a square and know for certain that it is so.

COULD MATTER THINK?

Without revelation we cannot know whether God has given some systems of matter a power to think.

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We have the ideas of matter and thinking, but possibly shall never be able to know, whether any mere material being thinks, or no; it being impossible for us, by the contemplation of our own ideas without revelation, to discover, whether omnipotency has not given to some

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We have the ideas of matter and of thinking, but possibly we shall never be able to know whether any merely material being thinks or not. By contemplating our own ideas without revelation, we cannot discover whether omnipotence has given to some systems of matter, suitably arranged, a

systems of matter, fitly disposed, a power to perceive and think, or else joined and fixed to matter so disposed, a thinking immaterial substance: it being, in respect of our notions, not much more remote from our comprehension to conceive, that God can, if he pleases, superadd to matter a faculty of thinking, than that he should superadd to it another substance, with a faculty of thinking; since we know not wherein thinking consists, nor to what sort of substances the Almighty has been pleased to give that power, which cannot be in any created being, but merely by the good pleasure and bounty of the Creator.

For I see no contradiction in it, that the first eternal thinking being should, if he pleased, give to certain systems of created senseless matter, put together, as he thinks fit, some degrees of sense, perception, and thought: though, as I think, I have proved, Book 4. ch. 10. Sect. 14. it is no less than a contradiction to suppose matter (which is evidently in its own nature void of sense and thought) should be that eternal first thinking Being. What certainty of knowledge can any one have that some perceptions, such as, v.

g. pleasure and pain, should not be in some bodies themselves, after a certain manner, modified and moved, as well as that they should be in an immaterial substance, upon the motions of the parts of body? Body, as far as we can conceive, being able only to strike and affect body; and motion, according to the utmost reach of our ideas, being able to produce nothing but motion: so that when we allow it to produce pleasure or pain, or the idea of a colour or sound, we are fain to quit our reason, go beyond our ideas, and attribute it wholly to the good pleasure of our Maker.

For since we must allow he has annexed effects to motion, which we can no way conceive motion able to produce, what reason have we to conclude, that he could not order them as well to be produced in a subject we cannot conceive capable of them, as well as in a subject we cannot conceive the motion of matter can any way operate upon?

I say not this, that I would any way lessen the belief of the soul's immateriality: I am not here

power to perceive and think, or has instead joined and fixed a thinking immaterial substance to matter so arranged. As far as our notions go, it is not much harder for us to conceive that God can, if he pleases, superadd to matter a faculty of thinking than that he should superadd to it another substance with a faculty of thinking. We do not know what thinking consists in. Nor do we know to what sort of substances the Almighty has been pleased to give that power, which cannot be in any created being except purely by the good pleasure and bounty of the Creator.[4]

For I see no contradiction in the first eternal thinking being giving some degrees of sense, perception, and thought, if he pleased, to certain systems of created, senseless matter, put together as he sees fit. Yet, as I think I have proved in Book IV, Chapter 10, Section 14, it is nothing less than a contradiction to suppose that matter should be that eternal first thinking being, since matter is evidently void of sense and thought by its own nature. Take some perceptions, for example

pleasure and pain. What certainty of knowledge can anyone have that they could not be in some bodies themselves, modified and moved in a certain way, just as well as in an immaterial substance, following the motions of the parts of the body? As far as we can conceive, body can only strike and affect body. And motion, to the utmost reach of our ideas, can produce nothing but motion. So when we allow that it produces pleasure or pain, or the idea of a color or sound, we are obliged to leave our reason behind, go beyond our ideas, and attribute it entirely to the good pleasure of our Maker.

We must allow that he has attached to motion effects that we can in no way conceive motion able to produce. What reason, then, do we have to conclude that he could not arrange for them to be produced in a subject we cannot conceive to be capable of them? He could do that just as well as have them produced in a subject on which we cannot conceive the motion of matter operating in any way.

I do not say this in order to weaken in any way the belief in the soul's immateriality. I am not speak-

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speaking of probability, but knowledge; and I think not only, that it becomes the modesty of philosophy not to pronounce magisterially, where we want that evidence that can produce knowledge; but also that it is of use to us to discern how far our knowledge does reach, for the state we are at present in, not being that of vision, we must, in many things, content ourselves with faith and probability; and in the present question, about the immateriality of the soul, if our faculties cannot arrive at demonstrative certainty, we need not think it strange.

All the great ends of morality and religion are well enough secured, without philosophical proofs of the soul's immateriality; since it is evident, that he who made us at the beginning to subsist here, sensible intelligent beings, and for several years continued us in such a state, can and will restore us to the like state of sensibility in another world, and make us capable there to receive the retribution he has designed to men, according to their doings in this life. And therefore it is not of such mighty necessity to determine one way or the other, as some, over zealous for or against the immateriality of the soul, have been forward to make the world believe.

Who, either on the one side, indulging too much their thoughts immersed altogether in matter, can allow no existence to what is not material: or who, on the other side, finding not cogitation within the natural powers of matter, examined over and over again by the utmost intention of mind, have the confidence to conclude, that Omnipotency itself cannot give perception and thought to a substance which has the modification of solidity. He that considers how hardly sensation is, in our thoughts, reconcileable to extended matter; or existence to any thing that hath no extension at all; will confess that he is very far from certainly knowing what his soul is.

It is a point which seems to me to be put out of the reach of our knowledge: and he who will give himself leave to consider freely, and look into the dark and intricate part of each hypothesis, will

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ing here of probability, but of knowledge. And I think it suits the modesty of philosophy not to pronounce authoritatively where we lack the evidence that can produce knowledge. I also think it is useful for us to see how far our knowledge does reach. The state we are in at present is not that of vision, and so in many things we must content ourselves with faith and probability. In the present question, about the immateriality of the soul, we need not think it strange if our faculties cannot arrive at demonstrative certainty.

All the great ends of morality and religion are secure enough without philosophical proofs of the soul's immateriality. He made us at the beginning to exist here as sensible, intelligent beings, and kept us in that state for a number of years. It is evident that he can and will restore us to a similar state of sensibility in another world, and make us capable there of receiving the reward or punishment he has designed for people according to their deeds in this life. So it is not as tremendously necessary to settle the question one way or the other as some people, overzealous for or against the immateriality of the soul, have been eager to make the world believe.

On the one side are those who indulge too far their thoughts, which are sunk entirely in matter, and so can allow no existence to anything that is not material. On the other side are those who have examined the natural powers of matter over and over with the utmost effort of mind, and, not finding thought among them, are confident enough to conclude that omnipotence itself cannot give perception and thought to a substance that has the modification of solidity. Anyone who considers how hard it is, in our thoughts, to reconcile sensation with extended matter, or existence with anything that has no extension at all, will admit that he is very far from knowing for certain what his soul is.

It is a point that seems to me to be placed out of the reach of our knowledge. Suppose someone allows himself to consider it freely, and looks into the dark and intricate part of each hypothesis. He

4 This "thinking matter" passage drew a sharp attack from Bishop Edward Stillingfleet and set off a long public controversy; Voltaire later made it famous.

scarce find his reason able to determine him fixedly for or against the soul's materiality. Since on which side soever he views it, either as an unextended substance, or as a thinking extended matter; the difficulty to conceive either will, whilst either alone is in his thoughts, still drive him to the contrary side; an unfair way which some men take with themselves, who, because of the inconceivableness of something they find in one, throw themselves violently into the contrary hypothesis, though alto.

gether as unintelligible to an unbiassed understanding. This serves not only to show the weakness and the scantiness of our knowledge, but the insignificant triumph of such sort of arguments, which, drawn from our own views, may satisfy us that we can find no certainty on one side of the question; but do not at all thereby help us to truth by running into the opposite opinion, which, on examination, will be found clogged with equal difficulties. For what safety, what advantage to any one is it, for the avoiding the seeming absurdities, and to him insurmountable rubs he meets with in one opinion, to take refuge in the contrary, which is built on something altogether as inexplicable, and as far remote from his comprehension?

It is past controversy, that we have in us something that thinks; our very doubts about what it is, confirm the certainty of its being, though we must content ourselves in the ignorance of what kind of being it is: and it is in vain to go about to be sceptical in this, as it is unreasonable in most other cases to be positive against the being of any thing, because we cannot comprehend its nature. For I would fain know what substance exists, that has not something in it which manifestly baffles our understandings. Other spirits, who see and know the nature and inward constitution of things, how much must they exceed us in knowledge?

To which if we add larger comprehension, which enables them at one glance to see the connexion and agreement of very many ideas, and readily supplies to them the intermediate proofs, which we, by single and slow steps, and long poring in the dark, hardly at last find out, and are often ready to forget one before we have hunted out another; we may guess at some part of the happiness of superior ranks of spirits, who have a

will hardly find his reason able to settle him firmly for or against the soul's materiality. He may view the soul either as an unextended substance or as thinking extended matter. Whichever side he views it from, the difficulty of conceiving that one, as long as it alone is in his thoughts, will keep driving him to the opposite side. Some people deal with themselves in this unfair way. Because something in one hypothesis is inconceivable to them, they throw themselves violently into the opposite hypothesis, though it is altogether

as unintelligible to an unbiased understanding. This shows the weakness and scantiness of our knowledge. It also shows the hollow triumph of arguments of this kind. Drawn from our own views, they may satisfy us that we can find no certainty on one side of the question. But they do nothing to bring us to the truth when we run into the opposite opinion, which on examination will be found burdened with equal difficulties. A man may meet with apparent absurdities in one opinion, and with obstacles he cannot get past. What safety, what advantage is it to him to escape them by taking refuge in the opposite opinion, which is built on something just as inexplicable and just as far beyond his comprehension?

It is beyond dispute that we have in us something that thinks. Our very doubts about what it is confirm the certainty of its existence, though we must content ourselves with not knowing what kind of being it is. It is pointless to try to be skeptical about this. It is just as unreasonable, in most other cases, to be positive against the existence of anything because we cannot comprehend its nature. For I would very much like to know what substance exists that does not have something in it that plainly baffles our understanding. Other spirits, who see and know the nature and inner constitution of things: how much must they exceed us in knowledge?

Suppose we add a larger comprehension to this. It lets them see at one glance the connection and agreement of a great many ideas. It readily supplies them with the intermediate proofs that we barely find out at last, by single, slow steps and long groping in the dark, often ready to forget one before we have hunted out another. Then we may guess at some part of the happiness of higher

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quicker and more penetrating sight, as well as a larger field of knowledge.

But to return to the argument in hand; our knowledge, I say, is not only limited to the paucity and imperfections of the ideas we have, and which we employ it about, but even comes short of that too. But how far it reaches, let us now inquire.

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ranks of spirits, who have a quicker and more penetrating sight as well as a larger field of knowledge.

But to return to the argument at hand. Our knowledge, I say, is not only limited to the scantiness and imperfection of the ideas we have and employ it on, but even falls short of that. How far it does reach, let us now inquire.

COEXISTENCE AND ITS LIMITS

We know very little about which qualities necessarily go together in substances, since their connections are hidden.

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4.3.7 *How far our knowledge reaches.*—The affirmations or negations we make concerning the ideas we have, may, as I have before intimated in general, be reduced to these four sorts, viz. identity, coexistence, relation, and real existence. I shall examine how far our knowledge extends in each of these.

4.3.8 1. *Our knowledge of identity and diversity, as far as our ideas.*—First, as to identity and diversity, in this way of the agreement or disagreement of our ideas, our intuitive knowledge is as far extended as our ideas themselves: and there can be no idea in the mind, which it does not presently, by an intuitive knowledge, perceive to be what it is, and to be different from any other.

4.3.9 2. *Of coexistence, a very little way.*—Secondly, as to the second sort, which is the agreement or disagreement of our ideas in coexistence; in this our knowledge is very short, though in this consists the greatest and most material part of our knowledge concerning substances. For our ideas of the species of substances being, as I have shown, nothing but certain collections of simple ideas united in one subject, and so coexisting together; *v. g.* our idea of flame is a body hot, luminous, and moving upward; of gold, a body heavy to a certain degree, yellow, malleable, and fusible: these, or some such complex ideas as these in men's minds, do those two names of the different substances, flame and gold, stand for.

When we would know any thing farther concerning these, or any other sort of substances, what do we inquire, but what other qualities or

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How far our knowledge reaches.—The affirmations or denials we make concerning the ideas we have can be reduced to four sorts, as I indicated in general before, namely identity, coexistence, relation, and real existence. I shall examine how far our knowledge extends in each of these.

1. *Our knowledge of identity and diversity, as far as our ideas.*—First, as to identity and diversity, as one way in which our ideas agree or disagree. Here our intuitive knowledge extends as far as our ideas themselves. There can be no idea in the mind that the mind does not immediately perceive, by intuitive knowledge, to be what it is and to be different from any other.

2. *Of coexistence, a very little way.*—Second, as to the second sort, which is the agreement or disagreement of our ideas in coexistence. Here our knowledge is very limited, even though the greatest and most important part of our knowledge concerning substances consists in this. For our ideas of the species of substances are, as I have shown, nothing but certain collections of simple ideas united in one subject, and so coexisting together. For example, our idea of flame is a body that is hot, luminous, and moving upward. Our idea of gold is a body that is heavy to a certain degree, yellow, malleable, and fusible. The two names of these different substances, flame and gold, stand for these complex ideas in people's minds, or for some like them.

When we want to know anything further about these or any other sort of substances, what do we inquire into but what other qualities or powers

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powers these substances have or have not? Which is nothing else but to know what other simple ideas do or do not coexist with those that make up that complex idea.

4.3.10 *Because the connexion between most simple ideas is unknown.*—This, how weighty and considerable a part soever of human science, is yet very narrow, and scarce any at all. The reason whereof is, that the simple ideas, whereof our complex ideas of substances are made up, are, for the most part, such as carry with them, in their own nature, no visible necessary connexion or inconsistency with any other simple ideas, whose coexistence with them we would inform ourselves about.

4.3.11 *Especially of secondary qualities.*—The ideas that our complex ones of substances are made up of, and about which our knowledge concerning substances is most employed, are those of their secondary qualities; which depending all (as has been shown) upon the primary qualities of their minute and insensible parts,-or if not upon them, upon something yet more remote from our comprehension,-it is impossible we should know which have a necessary union or inconsistency one with another: for not knowing the root they spring from, not knowing what size, figure, and texture of parts they are, on which depend, and from which result, those qualities which make our complex idea of gold; it is impossible we should know what other qualities result from, or are incompatible with, the same constitution of the insensible parts of gold, and so consequently must always coexist with that complex idea we have of it, or else are inconsistent with it.

4.3.12 *Because all connexion between any secondary and primary qualities is undiscoverable.*—Besides this ignorance of the primary qualities of the insensible parts of bodies, on which depend all their secondary qualities, there is yet another and more incurable part of ignorance, which sets us more remote from a certain knowledge of the coexistence or incoexistence (if I may so say) of different ideas in the same subject; and that is, that there is no discoverable connexion between any secondary quality and those primary qualities which it depends on.

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these substances have or do not have? And that is nothing else but to know what other simple ideas do or do not coexist with those that make up that complex idea.

Because the connection between most simple ideas is unknown.—This part of human science is weighty and considerable, but it is still very narrow, hardly any at all. The reason is this. The simple ideas that make up our complex ideas of substances are, for the most part, ideas whose own nature shows no visible necessary connection with, or inconsistency with, any other simple ideas. And it is their coexistence with those other ideas that we want to find out about.

Especially of secondary qualities.—The ideas that make up our complex ideas of substances, and that our knowledge of substances is mostly concerned with, are those of their secondary qualities. These all depend, as has been shown, on the primary qualities of the substances' minute and insensible parts, or, if not on them, on something even further beyond our comprehension. So it is impossible for us to know which of these qualities are necessarily united with one another and which are inconsistent with one another. We do not know the root they spring from. We do not know what size, shape, and texture of parts produce the qualities that make up our complex idea of gold. So it is impossible for us to know what other qualities result from the same constitution of the insensible parts of gold, or are incompatible with it. Consequently, we cannot know which qualities must always coexist with our complex idea of gold, or else are inconsistent with it.

Because all connection between any secondary and primary qualities is undiscoverable.—Besides this ignorance of the primary qualities of the insensible parts of bodies, on which all their secondary qualities depend, there is another and more incurable part of our ignorance. It puts us even further from certain knowledge of the coexistence or incoexistence (if I may put it that way) of different ideas in the same subject. It is this: there is no discoverable connection between any secondary quality and the primary qualities it depends on.

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That the size, figure, and motion of one body should cause a change in the size, figure, and motion of another body, is not beyond our conception: the separation of the parts of one body upon the intrusion of another, and the change from rest to motion upon impulse,-these and the like seem to us to have some connexion one with another.

And if we knew these primary qualities of bodies, we might have reason to hope we might be able to know a great deal more of these operations of them one upon another: but our minds not being able to discover any connexion betwixt those primary qualities of bodies and the sensations that are produced in us by them, we can never be able to establish certain and undoubted rules of the consequences or coexistence of any secondary qualities, though we could discover the size, figure, or motion of those invisible parts which immediately produce them.

We are so far from knowing what figure, size, or motion of parts produce a yellow colour, a sweet taste, or a sharp sound, that we can by no means conceive how any size, figure, or motion of any particles, can possibly produce in us the idea of any colour, taste, or sound whatsoever; there is no conceivable connexion between the one and the other.

4.3.14 In vain, therefore, shall we endeavour to discover by our ideas (the only true way of certain and universal knowledge) what other ideas are to be found constantly joined with that of our complex idea of any substance: since we neither know the real constitution of the minute parts on which their qualities do depend, nor, did we know them, could we discover any necessary connexion between them and any of the secondary qualities: which is necessary to be done before we can certainly know their necessary coexistence. So that, let our complex idea of any species of substances be what it will, we can hardly, from the simple ideas contained in it, certainly deter mine the necessary coexistence of any other quality whatsoever.

Our knowledge in all these inquiries reaches very little farther than our experience. Indeed, some few of the primary qualities have a necessary dependence and visible connexion one with another, as figure necessarily supposes extension;

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It is not beyond our conception that the size, shape, and motion of one body should cause a change in the size, shape, and motion of another body. Consider the separation of the parts of one body when another pushes into it, and the change from rest to motion upon impact. These and the like seem to us to have some connection with one another.

And if we knew these primary qualities of bodies, we might have reason to hope we could know a great deal more about how they act on one another. But our minds cannot discover any connection between those primary qualities of bodies and the sensations they produce in us. So we can never establish certain and undoubted rules about the consequences or coexistence of any secondary qualities, even if we could discover the size, shape, or motion of the invisible parts that immediately produce them.

We are far from knowing what shape, size, or motion of parts produces a yellow color, a sweet taste, or a sharp sound. In fact, we cannot in any way conceive how any size, shape, or motion of any particles could possibly produce in us the idea of any color, taste, or sound whatever. There is no conceivable connection between the one and the other.

It is therefore in vain for us to try to discover by our ideas (the only true way to certain and universal knowledge) what other ideas are always joined with our complex idea of any substance. We do not know the real constitution of the minute parts on which their qualities depend. And even if we did know it, we could not discover any necessary connection between it and any of the secondary qualities. Yet this must be done before we can know their necessary coexistence for certain. So whatever our complex idea of any species of substances may be, we can hardly determine with certainty, from the simple ideas contained in it, the necessary coexistence of any other quality whatever.

Our knowledge in all these inquiries reaches very little farther than our experience. Admittedly, a few of the primary qualities have a necessary dependence on, and visible connection with, one another. Shape necessarily presupposes extension,

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receiving or communicating motion by impulse, supposes solidity. But though these and perhaps some other of our ideas have, yet there are so few of them that have a visible connexion one with another, that we can by intuition or demonstration discover the coexistence of very few of the qualities that are to be found united in substances: and we are left only to the assistance of our senses, to make known to us what qualities they contain.

For of all the qualities that are coexistent in any subject, without this dependence and evident connexion of their ideas one with another, we cannot know certainly any two to coexist any farther than experience, by our senses, informs us. Thus, though we see the yellow colour, and upon trial find the weight, malleableness, fusibility, and fixedness, that are united in a piece of gold; yet because no one of these ideas has any evident dependence, or necessary connexion with the other, we cannot certainly know, that where any four of these are, the fifth will be there also, how highly probable soever it may be; because the highest probability amounts not to certainty, without which there can be no true knowledge.

For this coexistence can be no farther known than it is perceived; and it cannot be perceived but either in particular subjects, by the observation of our senses, or in general, by the necessary connexion of the ideas themselves.

4.3.15 *Of repugnancy to coexist, larger.*—As to the incompatibility or repugnancy to coexistence; we may know that any subject may have of each sort of primary qualities but one particular at once; *v. g.* each particular extension, figure, number of parts, motion, excludes all other of each kind. The like also is certain of all sensible ideas peculiar to each sense; for whatever of each kind is present in any subject, excludes all other of that sort; *v. g.* no one subject can have two smells or two colours at the same time. To this perhaps will be said, has not an opal, or the infusion of *lignum nephriticum*, two colours at the same time?

To which I answer, that these bodies, to eyes differently placed, may, at the same time, afford different colours; but I take liberty also to say, that to eyes differently placed, it is different parts

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and receiving or communicating motion by impact presupposes solidity. But though these ideas, and perhaps some others, have such a connection, very few have a visible connection with one another. So we can discover by intuition or demonstration the coexistence of very few of the qualities found united in substances. We are left with only the help of our senses to tell us what qualities they contain.

Many qualities coexist in a subject without this dependence and evident connection of their ideas with one another. Of all such qualities, we cannot know for certain that any two coexist any further than experience, through our senses, informs us. Take a piece of gold. We see its yellow color, and on trial we find the weight, malleability, fusibility, and fixedness that are united in it. Yet none of these ideas has any evident dependence on, or necessary connection with, the others. So we cannot know for certain that where any four of them are, the fifth will be there too, however highly probable that may be. The highest probability does not amount to certainty, and without certainty there can be no true knowledge.

For this coexistence can be known no further than it is perceived. And it can be perceived in only two ways: in particular subjects, by the observation of our senses, or in general, by the necessary connection of the ideas themselves.

Of incompatibility in coexisting, larger.—As to incompatibility, or repugnancy to coexistence: we can know that any subject can have only one particular of each sort of primary quality at a time. For example, each particular extension, shape, number of parts, or motion excludes all others of its kind. The same is also certain of all the sensible ideas peculiar to each sense. Whatever of each kind is present in any subject excludes all others of that sort. For example, no one subject can have two smells or two colors at the same time. Someone may perhaps reply: does not an opal, or the infusion of *lignum nephriticum*, have two colors at the same time?

I answer that these bodies may show different colors at the same time to eyes placed in different positions. But I also take the liberty of saying that, to eyes in different positions, it is different parts of

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of the object that reflect the particles of light; and therefore it is not the same part of the object, and so not the very same subject, which at the same time appears both yellow and azure. For it is as impossible that the very same particle of any body should at the same time differently modify or reflect the rays of light, as that it should have two different figures and textures at the same time.

4.3.16 *Of the coexistence of powers, a very little way.*—But as to the powers of substances to change the sensible qualities of other bodies, which make a great part of our inquiries about them, and is no inconsiderable branch of our knowledge; I doubt, as to these, whether our knowledge reaches much farther than our experience; or whether we can come to the discovery of most of these powers, and be certain that they are in any subject, by the connexion of any of those ideas which to us make its essence.

Because the active and passive powers of bodies, and their ways of operating, consisting in a texture and motion of parts, which we cannot by any means come to discover; it is but in very few cases we can be able to perceive their dependence on, or repugnance to, any of those ideas, which make our complex one of that sort of things.

I have here instanced in the corpuscularian hypothesis, as that which is thought to go farthest in an intelligible explication of those qualities of bodies; and I fear the weakness of human understanding is scarce able to substitute another, which will afford us a fuller and clearer discovery of the necessary connexion and coexistence of the powers which are to be observed united in several sorts of them.

This at least is certain, that whichever hypothesis be clearest and truest, (for of that it is not my business to determine) our knowledge concerning corporeal substances will be very little advanced by any of them, till we are made to see what qualities and powers of bodies have a necessary connexion and repugnancy one with another; which in the present state of philosophy, I think we know but to a very small degree and I doubt whether, with those faculties we have, we shall ever be able to carry our general knowledge (I say not particular experience) in this part much

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the object that reflect the particles of light. So it is not the same part of the object, and therefore not the very same subject, that appears both yellow and azure at the same time. It is as impossible for the very same particle of any body to modify or reflect the rays of light differently at the same time as it is for it to have two different shapes and textures at the same time.

Of the coexistence of powers, a very little way.—Then there are the powers of substances to change the sensible qualities of other bodies. These make up a great part of our inquiries about substances, and are no small branch of our knowledge. As to these, I doubt whether our knowledge reaches much further than our experience. I also doubt whether we can discover most of these powers, and be certain they are in any subject, by the connection of any of the ideas that for us make up its essence.

For the active and passive powers of bodies, and their ways of operating, consist in a texture and motion of parts that we cannot by any means discover. So it is only in very few cases that we can perceive their dependence on, or repugnance to, any of the ideas that make up our complex idea of that sort of thing.

I have used the corpuscular hypothesis as my example here, since it is thought to go furthest in giving an intelligible explanation of those qualities of bodies. And I fear the weakness of human understanding is hardly able to put another in its place. Several sorts of bodies are observed to have powers united in them. I doubt that any other hypothesis would give us a fuller and clearer discovery of the necessary connection and coexistence of those powers.

This at least is certain, whichever hypothesis is clearest and truest (it is not my business to decide that). Our knowledge concerning bodily substances will be very little advanced by any of them until we are made to see which qualities and powers of bodies have a necessary connection with one another and which are repugnant to one another. In the present state of philosophy, I think, we know this only to a very small degree. And I doubt whether, with the faculties we have, we shall ever be able to carry our general knowledge in this area much further (I do not say particular

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farther. Experience is that which in this part we must depend on. And it were to be wished that it were more improved.

We find the advantages some men's generous pains have this way brought to the stock of natural knowledge. And if others, especially the philosophers by fire, who pretend to it, had been so wary in their observations, and sincere in their reports, as those who call themselves philosophers ought to have been, our acquaintance with the bodies here about us, and our insight into their powers and operations, had been yet much greater.

4.3.17 *Of spirits, yet narrower.*—If we are at a loss in respect of the powers and operations of bodies, I think it is easy to conclude, we are much more in the dark in reference to the spirits; whereof we naturally have no ideas but what we draw from that of our own, by reflecting on the operations of our own souls within us, as far as they can come within our observation.

But how inconsiderable a rank the spirits that inhabit our bodies hold among those various and possibly innumerable kinds of nobler beings; and how far short they come of the endowments and perfections of cherubim and seraphim, and infinite sorts of spirits above us; is what by a transient hint in another place, I have offered to my reader's consideration.

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experience). Experience is what we must depend on here. And it is to be wished that experience were further developed.

We see the advantages that some people's generous efforts in this direction have brought to the stock of natural knowledge. Others, especially the philosophers by fire who lay claim to it, have not been as careful in their observations or as honest in their reports as those who call themselves philosophers ought to be. If they had been, our acquaintance with the bodies around us, and our insight into their powers and operations, would have been much greater still.[5]

Of spirits, yet narrower.—If we are at a loss about the powers and operations of bodies, I think it is easy to conclude that we are much more in the dark about spirits. Naturally, we have no ideas of spirits except what we draw from the idea of our own spirit, by reflecting on the operations of our own souls within us, as far as those operations can come within our observation.

There are various and possibly countless kinds of nobler beings, and the spirits that inhabit our bodies hold an insignificant rank among them. They fall far short of the endowments and perfections of cherubim and seraphim and infinite sorts of spirits above us. I have put this to my reader's consideration by a passing hint in another place.

MORALITY CAPABLE OF DEMONSTRATION

Moral ideas could be demonstrated like mathematics, if their complexity and lack of sensible marks were overcome.

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4.3.18 3. *Of other relations, it is not easy to say how far.*—As to the third sort of our knowledge, viz. the agreement or disagreement of any of our ideas in any other relation: this, as it is the largest field of our knowledge, so it is hard to determine how far it may extend; because the advances that are made in this part of knowledge, depending on our sagacity in finding intermediate ideas, that may show the relations and habitudes of ideas, whose coexistence is not considered, it is a hard matter to tell when we are at an end of such discoveries; and when reason has all the helps it is capable of,

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3. *Of other relations, it is not easy to say how far.*—As to the third sort of our knowledge, namely the agreement or disagreement of any of our ideas in any other relation. This is the largest field of our knowledge, and for that reason it is hard to determine how far it may extend. The advances made in this part of knowledge depend on our sagacity in finding intermediate ideas that can show the relations and bearings of ideas, where coexistence is not in question. So it is hard to tell when we have come to the end of such discoveries. It is equally hard to tell when reason has all

5 Locke probably has in mind the experimental work of Robert Boyle and the Royal Society; the "philosophers by fire" are the chemists and alchemists who worked at the furnace.

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for the finding of proofs, or examining the agreement or disagreement of remote ideas.

They that are ignorant of algebra cannot imagine the wonders in this kind are to be done by it: and what farther improvements and helps, advantageous to other parts of knowledge the sagacious mind of man may yet find out, it is not easy to determine. This at least I believe, that the ideas of quantity are not those alone that are capable of demonstration and knowledge; and that other, and perhaps more useful parts of contemplation, would afford us certainty, if vices, passions, and domineering interest did not oppose or menace such endeavours.

Morality capable of demonstration.—The idea of a Supreme Being, infinite in power, goodness, and wisdom, whose workmanship we are, and on whom we depend; and the idea of ourselves, as understanding rational beings, being such as are clear in us, would, I suppose, if duly considered and pursued, afford such foundations of our duty and rules of action, as might place morality among the sciences capable of demonstration: wherein I doubt not but from self-evident propositions, by necessary consequences, as incontestible as those in mathematics, the measures of right and wrong might be made out to any one that will apply himself with the same indifferency and attention to the one, as he does to the other of these sciences.

The relation of other modes may certainly be perceived, as well as those of number and extension; and I cannot see why they should not also be capable of demonstration, if due methods were thought on to examine or pursue their agreement or disagreement.

Where there is no property, there is no injustice, is a proposition as certain as any demonstration in Euclid: for the idea of property being a right to any thing; and the idea to which the name injustice is given being the invasion or violation of that right; it is evident that these ideas being thus established, and these names annexed to them, I can as certainly know this proposition to be true, as that a triangle has three angles equal to two right ones.

Again, "no government allows absolute liberty:" the idea of government being the establishment

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the aids it is capable of for finding proofs or for examining the agreement or disagreement of remote ideas.

Those who are ignorant of algebra cannot imagine the wonders of this kind that it can do. And it is not easy to determine what further improvements and aids, useful to other parts of knowledge, the sagacious mind of man may yet discover. This at least I believe: the ideas of quantity are not the only ones capable of demonstration and knowledge. Other fields of contemplation, perhaps more useful ones, would give us certainty, if vices, passions, and domineering interest did not oppose or threaten such efforts.

Morality capable of demonstration.—We have a clear idea of a Supreme Being, infinite in power, goodness, and wisdom, whose workmanship we are and on whom we depend. We also have a clear idea of ourselves as understanding, rational beings. If these ideas were duly considered and pursued, they would, I suppose, provide foundations for our duty and rules of action that might place morality among the sciences capable of demonstration. In such a science, I have no doubt, the measures of right and wrong could be worked out from self-evident propositions, by necessary consequences as incontestable as those in mathematics. They could be worked out by anyone who applies himself to the one science with the same impartiality and attention as he does to the other.

The relations of other modes can certainly be perceived, just as the relations of number and extension can. I cannot see why they should not also be capable of demonstration, if proper methods were devised for examining or pursuing their agreement or disagreement.

“Where there is no property, there is no injustice” is a proposition as certain as any demonstration in Euclid. The idea of property is a right to anything. The idea to which the name “injustice” is given is the invasion or violation of that right. Once these ideas are established and these names attached to them, it is evident that I can know this proposition to be true as certainly as I know that a triangle has three angles equal to two right angles.

Again, take the proposition “No government allows absolute liberty.” The idea of government is

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of society upon certain rules or laws which require conformity to them; and the idea of absolute liberty being for any one to do whatever he pleases; I am as capable of being certain of the truth of this proposition, as of any in the mathematics.

4.3.19 *Two things have made moral ideas thought incapable of demonstration: their complexedness, and want of sensible representations.*—That which in this respect has given the advantage to the ideas of quantity, and made them thought more capable of certainty and demonstration, is,

First, That they can be set down and represented by sensible marks, which have a greater and nearer correspondence with them than any words or sounds whatsoever. Diagrams drawn on paper are copies of the ideas in the mind, and not liable to the uncertainty that words carry in their signification. An angle, circle, or square, drawn in lines, lies open to the view, and cannot be mistaken; it remains unchangeable, and may at leisure be considered and examined, and the demonstration be revised, and all the parts of it may be gone over more than once without any danger of the least change in the ideas.

This cannot be thus done in moral ideas; we have no sensible marks that resemble them, whereby we can set them down; we have nothing but words to express them by which though, when written, they remain the same, yet the ideas they stand for may change in the same man; and it is very seldom that they are not different in different persons.

Secondly, Another thing that makes the greater difficulty in ethics is, that moral ideas are commonly more complex than those of the figures ordinarily considered in mathematics. From whence these two inconveniences follow first, that their names are of more uncertain signification, the precise collection of simple ideas they stand for not being so easily agreed on, and so the sign that is used for them in communication always, and in thinking often, does not steadily carry with it the same idea.

Upon which the same disorder, confusion, and error follow, as would if a man, going to demonstrate something of an heptagon, should, in the diagram he took to do it, leave out one of

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the establishment of society on certain rules or laws that require conformity to them. The idea of absolute liberty is that anyone may do whatever he pleases. So I am as capable of being certain of the truth of this proposition as of any in mathematics.

Two things have made moral ideas thought incapable of demonstration: their complexity, and the lack of sensible representations.—In this respect, ideas of quantity have had an advantage that made them seem more capable of certainty and demonstration. That advantage is,

First, that they can be set down and represented by sensible marks, which correspond to them more fully and closely than any words or sounds whatever. Diagrams drawn on paper are copies of the ideas in the mind, and are not subject to the uncertainty that words carry in their meaning. An angle, circle, or square drawn in lines lies open to view and cannot be mistaken. It stays unchanged, and can be considered and examined at leisure. The demonstration can be reviewed, and all its parts gone over more than once, without any danger of the least change in the ideas.

This cannot be done in the same way with moral ideas. We have no sensible marks that resemble them by which we can set them down. We have nothing but words to express them. When words are written, they stay the same, but the ideas they stand for may change in the same man. And they are very seldom the same in different people.

Second, another thing that makes ethics more difficult is that moral ideas are commonly more complex than the ideas of the figures ordinarily considered in mathematics. Two drawbacks follow from this. First, their names have a more uncertain meaning, since people do not so easily agree on the precise collection of simple ideas they stand for. So the sign used for them does not steadily carry the same idea with it, always in communication and often in thinking.

The result is the same disorder, confusion, and error that would follow if a man set out to demonstrate something about a heptagon and, in the diagram he used for it, left out one of the angles. Or it

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the angles, or by oversight make the figure with one angle more than the name ordinarily imported, or he intended it should, when at first he thought of his demonstration. This often happens, and is hardly avoidable in very complex moral ideas, where the same name being retained, one angle, *i. e.* one simple idea is left out or put in the complex one (still called by the same name) more at one time than another. Secondly, from the complexedness of the moral ideas, there follows another inconvenience, viz.

that the mind cannot easily retain those precise combinations, so exactly and perfectly as is necessary in the examination of the habitudes and correspondences, agreements or disagreements, of several of them one with an other; especially where it is to be judged of by long productions, and the intervention of several other complex ideas, to show the agreement or disagreement of two remote ones.

The great help against this which mathematicians find in diagrams and figures, which remain unalterable in their draughts, is very apparent, and the memory would often have great difficulty otherwise to retain them so exactly, whilst the mind went over the parts of them, step by step, to examine their several correspondences.

And though in casting up a long sum either in addition, multiplication, or division, every part be only a progression of the mind, taking a view of its own ideas, and considering the agreement or disagreement; and the resolution of the question be nothing but the result of the whole, made up of such particulars, whereof the mind has a clear perception: yet without setting down the several parts by marks, whose precise significations are known, and by marks that last and remain in view when the memory had let them go, it would be almost impossible to carry so many different ideas in the mind, without confounding or letting slip some parts of the reckoning, and thereby making all our reasonings about it useless.

In which case, the ciphers or marks help not the mind at all to perceive the agreement of any two or more numbers, their equalities or proportions: that the mind has only by intuition of its own ideas of the numbers themselves. But the

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would be as if he drew the figure by oversight with one angle more than the name ordinarily meant, or than he intended when he first thought of his demonstration. This often happens, and is hardly avoidable, in very complex moral ideas. The same name is kept, but one angle, that is, one simple idea, is left out of the complex idea or put into it at one time more than at another, while it is still called by the same name. Second, the complexity of moral ideas brings another drawback, namely

that the mind cannot easily retain those precise combinations as exactly and perfectly as is needed. That exactness is necessary for examining the relations and correspondences, the agreements or disagreements, of several of them with one another. It is especially necessary where the question has to be judged by long chains of reasoning, with several other complex ideas coming in between to show the agreement or disagreement of two remote ones.

Mathematicians find a great help against this in diagrams and figures, which stay unaltered once drawn. That help is very evident: without it, the memory would often have great difficulty retaining them so exactly while the mind went over their parts step by step to examine their various correspondences.

Consider casting up a long sum, whether in addition, multiplication, or division. Every part is only a progression of the mind, taking a view of its own ideas and considering their agreement or disagreement. The answer to the question is nothing but the result of the whole, made up of such particulars, each of which the mind clearly perceives. Yet suppose we did not set down the various parts in marks whose precise meanings are known, marks that last and remain in view after the memory has let them go. Then it would be almost impossible to carry so many different ideas in the mind without confusing or letting slip some parts of the reckoning, and so making all our reasoning about it useless.

In this case the numerals or marks do not help the mind at all to perceive the agreement of any two or more numbers, or their equalities or proportions. The mind has that only by intuition of its own ideas of the numbers themselves. But the nu-

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numerical characters are helps to the memory, to record and retain the several ideas about which the demonstration is made, whereby a man may know how far his intuitive knowledge, in surveying several of the particulars, has proceeded; that so he may without confusion go on to what is yet unknown, and at last have in one view before him the result of all his perceptions and reasonings.

4.3.20 *Remedies of those difficulties.*—One part of these disadvantages in moral ideas, which has made them be thought not capable of demonstration, may in a good measure be remedied by definitions, setting down that collection of simple ideas, which every term shall stand for, and then using the terms steadily and constantly for that precise collection. And what methods algebra, or something of that kind, may hereafter suggest, to remove the other difficulties, it is not easy to foretell.

Confident I am, that if men would in the same method, and with the same indifferency, search after moral, as they do mathematical truths, they would find them have a stronger connexion one with another, and a more necessary consequence from our clear and distinct ideas, and to come nearer perfect demonstration than is commonly imagined. But much of this is not to be expected, whilst the desire of esteem, riches, or power, makes men espouse the well-endowed opinions in fashion, and then seek arguments either to make good their beauty, or varnish over and cover their deformity: nothing being so beautiful to the eye as truth is to the mind; nothing so deformed and irreconcileable to the understanding as a lie.

For though many a man can with satisfaction enough own a no very handsome wife in his bosom; yet who is bold enough openly to avow, that he has espoused a falsehood, and received into his breast so ugly a thing as a lie? Whilst the parties of men cram their tenets down all men's throats, whom they can get into their power, without permitting them to examine their truth or falsehood, and will not let truth have fair play in the world, nor men the liberty to search after it, what improvements can be expected of this

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merical characters are helps to the memory, to record and retain the various ideas about which the demonstration is made. By them a man may know how far his intuitive knowledge has proceeded in surveying the several particulars. He can then go on without confusion to what is still unknown, and at last have before him in one view the result of all his perceptions and reasonings.

Remedies of those difficulties.—Some of these disadvantages in moral ideas have made people think them incapable of demonstration. One part of them may be remedied to a large degree by definitions: we set down the collection of simple ideas that each term is to stand for, and then use the terms steadily and consistently for that precise collection. It is not easy to foretell what methods algebra, or something of that kind, may suggest in the future for removing the other difficulties.

I am confident that if men searched for moral truths by the same method, and with the same impartiality, as they search for mathematical ones, they would find that moral truths have a stronger connection with one another than is commonly imagined. They would also find that these truths follow more necessarily from our clear and distinct ideas, and come nearer to perfect demonstration. But not much of this is to be expected so long as the desire of esteem, riches, or power makes men embrace the well-endowed opinions in fashion. They then look for arguments either to show off the beauty of those opinions or to varnish over and cover their ugliness. For nothing is so beautiful to the eye as truth is to the mind, and nothing so ugly and irreconcilable to the understanding as a lie.

Many a man can, with satisfaction enough, embrace a wife who is none too handsome. But who is bold enough to admit openly that he has married a falsehood and taken into his heart so ugly a thing as a lie? The parties of men cram their tenets down the throats of everyone they can get into their power, without letting them examine whether those tenets are true or false. They will not let truth have fair play in the world, nor let men have the liberty to search for it. While this goes on, what improvements of this kind can be expected?

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kind? What greater light can be hoped for in the moral sciences?

The subject part of mankind, in most places might, instead thereof, with Egyptian bondage expect Egyptian darkness, were not the candle of the Lord set up by himself in men's minds, which it is impossible for the breath or power of man wholly to extinguish.

4.3.21 4. *Of real existence; we have an intuitive knowledge of our own; demonstrative, of God's; sensitive, of some few other things.*—As to the fourth sort of our knowledge, viz. of the real actual existence of things, we have an intuitive knowledge of our own existence; and a demonstrative knowledge of the existence of a God; of the existence of any thing else, we have no other but a sensitive knowledge, which extends not beyond the objects present to our senses.

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What greater light can be hoped for in the moral sciences?

Instead, in most places the subject part of mankind might expect Egyptian darkness along with Egyptian bondage. They would, were it not for the candle of the Lord, set up by himself in men's minds, which the breath or power of man can never wholly put out.[6]

4. *Of real existence: we have an intuitive knowledge of our own; demonstrative, of God's; sensitive, of some few other things.*—As for the fourth sort of our knowledge, namely of the real, actual existence of things: we have an intuitive knowledge of our own existence and a demonstrative knowledge of the existence of a God. Of the existence of anything else we have only sensitive knowledge, which does not extend beyond the objects present to our senses.

THE EXTENT OF OUR IGNORANCE

Our ignorance comes from lacking ideas, lacking discoverable connections, and failing to trace the ideas we have.

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4.3.22 *Our ignorance great.*—Our knowledge being so narrow, as I have showed, it will perhaps give us some light into the present state of our minds, if we look a little into the dark side, and take a view of our ignorance; which, being infinitely larger than our knowledge, may serve much to the quieting of disputes, and improvement of useful knowledge; if discovering how far we have clear and distinct ideas, we confine our thoughts within the contemplation of those things that are within the reach of our understandings, and launch not out into that abyss of darkness (where we have not eyes to see, nor faculties to perceive any thing) out of a presumption that nothing is beyond our comprehension.

But to be satisfied of the folly of such a conceit we need not go far. He that knows any thing, knows this in the first place, that he need not seek long for instances of his ignorance. The meanest and most obvious things that come in our way have dark sides, that the quickest sight cannot penetrate into. The clearest and most enlarged understandings of thinking men find themselves puzzled, and at a loss, in every particle of matter.

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Our ignorance great.—Our knowledge is as narrow as I have shown. So it may perhaps shed some light on the present state of our minds if we look a little into the dark side and take a view of our ignorance. Our ignorance is infinitely larger than our knowledge, and seeing it may do much to quiet disputes and improve useful knowledge. That will happen if we discover how far we have clear and distinct ideas and confine our thoughts to things within the reach of our understandings. We should not launch out into that abyss of darkness (where we have no eyes to see, nor faculties to perceive anything) out of a presumption that nothing is beyond our comprehension.

But we need not go far to be convinced of the folly of such a notion. Anyone who knows anything knows this first of all: he need not look long for instances of his own ignorance. The humblest and most obvious things that come in our way have dark sides that the sharpest sight cannot penetrate. The clearest and broadest understandings among thinking men find themselves puzzled and at a loss in every particle of matter. We shall be

6 Egyptian darkness: the plague of darkness in Exodus 10:21–23. "The spirit of man is the candle of the Lord": Proverbs 20:27.

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We shall the less wonder to find it so, when we consider the causes of our ignorance; which, from what has been said, I suppose, will be found to be these three:

First, Want of ideas.

Secondly, Want of a discoverable connexion between the ideas we have.

Thirdly, Want of tracing and examining our ideas.

4.3.23 *First, one cause of it, want of ideas, either such as we have no conception of, or such as particularly we have not.*—First, There are some things, and those not a few, that we are ignorant of, for want of ideas.

First; all the simple ideas we have are confined (as I have shown) to those we receive from corporeal objects by sensation, and from the operations of our own minds as the objects of reflection. But how much these few and narrow inlets are disproportionate to the vast whole extent of all beings, will not be hard to persuade those, who are not so foolish as to think their span the measure of all things. What other simple ideas it is possible the creatures in other parts of the universe may have, by the assistance of senses and faculties more, or perfecter, than we have, or different from ours, it is not for us to determine.

But to say or think there are no such, because we conceive nothing of them, is no better an argument, than if a blind man should be positive in it, that there was no such thing as sight and colours, because he had no manner of idea of any such thing, nor could by any means frame to himself any notions about seeing. The ignorance and darkness that is in us, no more hinders nor confines the knowledge that is in others, than the blindness of a mole is an argument against the quick-sightedness of an eagle.

He that will consider the infinite power, wisdom, and goodness of the Creator of all things, will find reason to think it was not all laid out upon so inconsiderable, mean, and impotent a creature, as he will find man to be; who, in all probability, is one of the lowest of all intellectual beings. What faculties therefore other species of creatures have, to penetrate into the nature and inmost

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less surprised to find it so when we consider the causes of our ignorance. From what has been said, I suppose these will be found to be the following three:

First, lack of ideas.

Second, lack of a discoverable connection between the ideas we have.

Third, failure to trace and examine our ideas.

First, one cause of it, lack of ideas: either such as we have no conception of, or such as we in particular do not have.—First, there are some things, and not a few of them, that we are ignorant of for lack of ideas.

First, all the simple ideas we have are confined (as I have shown) to two sources. We receive some from bodily objects by sensation, and others from the operations of our own minds as the objects of reflection. These few and narrow inlets are out of all proportion to the vast whole extent of all beings. That will not be hard to persuade anyone who is not so foolish as to think his own span the measure of all things. The creatures in other parts of the universe may have other simple ideas, with the help of senses and faculties more numerous or more perfect than ours, or different from them. What those ideas might be is not for us to determine.

But to say or think there are no such ideas, because we conceive nothing of them, is no better an argument than a blind man's insisting that there is no such thing as sight and colors. He would argue so because he had no idea of any such thing and could not by any means form any notion of seeing. The ignorance and darkness in us no more hinder or limit the knowledge in others than the blindness of a mole is an argument against the keen sight of an eagle.

Whoever considers the infinite power, wisdom, and goodness of the Creator of all things will find reason to think that it was not all spent on so inconsiderable, lowly, and impotent a creature as man. For he will find that man is, in all probability, one of the lowest of all intellectual beings. So we do not know what faculties other species of creatures have for penetrating into the nature and

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constitution of things; what ideas they may receive from them, far different from ours; we know not. This we know, and certainly find, that we want several other views of them, besides those we have, to make discoveries of them more perfect.

And we may be convinced that the ideas we can attain to by our faculties, are very disproportionate to things themselves, when a positive, clear, distinct one of substance itself, which is the foundation of all the rest, is concealed from us. But want of ideas of this kind being a part, as well as cause of our ignorance, cannot be described.

Only this, I think, I may confidently say of it, that the intellectual and sensible world are in this perfectly alike; that that part which we see of either of them, holds no proportion with what we see not; and whatsoever we can reach with our eyes, or our thoughts, of either of them, is but a point, almost nothing in comparison of the rest.

4.3.24 *Because of their remoteness; or,* Secondly, another great cause of ignorance is the want of ideas we are capable of. As the want of ideas, which our faculties are not able to give us, shuts us wholly from those views of things which it is reasonable to think other beings, perfecter than we, have, of which we know nothing, so the want of ideas I now speak of keeps us in ignorance of things we conceive capable of being known to us. Bulk, figure, and motion, we have ideas of.

But though we are not without ideas of these primary qualities of bodies in general, yet not knowing what is the particular bulk, figure, and motion, of the greatest part of the bodies of the universe, we are ignorant of the several powers, efficacies, and ways of operation, whereby the effects, which we daily see, are produced. These are hid from us in some things, by being too remote; and in others, by being too minute. When we consider the vast distance of the known and visible parts of the world, and the reasons we have to think that what lies within our ken is but a small part of the universe, we shall then discover a huge abyss of ignorance.

What are the particular fabrics of the great masses of matter, which make up the whole stupendous frame of corporeal beings, how far

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inmost constitution of things. Nor do we know what ideas they may receive from them, far different from ours. This we do know and certainly find: to make our discoveries about things more perfect, we lack several other views of them besides those we have.

A positive, clear, and distinct idea of substance itself, which is the foundation of all the rest, is hidden from us. That may convince us that the ideas we can attain by our faculties are greatly out of proportion to things themselves. But lack of ideas of this kind is part as well as cause of our ignorance, and so it cannot be described.

Only this, I think, I may say of it with confidence: the intellectual world and the sensible world are perfectly alike in this respect. The part of either that we see bears no proportion to what we do not see. Whatever we can reach of either with our eyes or our thoughts is only a point, almost nothing in comparison with the rest.

Because of their remoteness; or—Second, another great cause of ignorance is the lack of ideas that we are capable of having. There is a lack of ideas that our faculties cannot give us. It is reasonable to think that other beings, more perfect than we are, have views of things of which we know nothing, and that lack shuts us out from them entirely. In the same way, the lack of ideas I am now speaking of keeps us ignorant of things we conceive to be capable of being known to us. We have ideas of bulk, figure, and motion.

We are not without ideas of these primary qualities of bodies in general. But we do not know the particular bulk, figure, and motion of most of the bodies in the universe. So we are ignorant of the various powers, efficacies, and ways of operating by which the effects we see every day are produced. In some things these are hidden from us by being too remote, and in others by being too minute. Consider the vast distance of the known and visible parts of the world, and the reasons we have to think that what lies within our view is only a small part of the universe. We shall then discover a huge abyss of ignorance.

Great masses of matter make up the whole stupendous frame of bodily beings. What their particular structures are, how far they extend, what

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they are extended, what is their motion, and how continued or communicated, and what influence they have one upon another, are contemplations that at first glimpse our thoughts lose themselves in.

If we narrow our contemplations, and confine our thoughts to this little canton, I mean this system of our sun, and the grosser masses of matter that visibly move about it; what several sorts of vegetables, animals, and intellectual corporeal beings, infinitely different from those of our little spot of earth, may there probably be in the other planets, to the knowledge of which, even of their outward figures and parts, we can no way attain, whilst we are confined to this earth; there being no natural means, either by sensation or reflection, to convey their certain ideas in our minds?

They are out of the reach of those inlets of all our knowledge: and what sorts of furniture and inhabitants those mansions contain in them we cannot so much as guess, much less have clear and distinct ideas of them.

4.3.25 *Or, because of their minuteness.*—If a great, nay, far the greatest part of the several ranks of bodies in the universe, escape our notice by their remoteness, there are others that are no less concealed from us by their minuteness. These insensible corpuscles being the active parts of matter, and the great instruments of nature, on which depend not only all their secondary qualities, but also most of their natural operations; our want of precise distinct ideas of their primary qualities keeps us in an incurable ignorance of what we desire to know about them.

I doubt not but if we could discover the figure, size, texture, and motion of the minute constituent parts of any two bodies, we should know without trial several of their operations one upon another, as we do now the properties of a square or a triangle.

Did we know the mechanical affections of the particles of rhubarb, hemlock, opium, and a man; as a watchmaker does those of a watch, whereby it performs its operations, and of a file, which, by rubbing on them will alter the figure of any of the wheels; we should be able to tell beforehand, that rhubarb will purge, hemlock kill, and opium make a man sleep; as well as a watchmaker can,

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their motion is, how it is continued or communicated, and what influence they have on one another: our thoughts lose themselves in these contemplations at first glimpse.

Suppose we narrow our contemplation and confine our thoughts to this little canton. I mean this system of our sun, and the grosser masses of matter that visibly move around it. What various sorts of plants, animals, and intellectual bodily beings may there probably be on the other planets, infinitely different from those on our little spot of earth? We can in no way attain knowledge of them, not even of their outward shapes and parts, while we are confined to this earth. There are no natural means, either by sensation or by reflection, to convey certain ideas of them into our minds.

They are out of the reach of those inlets of all our knowledge. We cannot so much as guess what sorts of furnishings and inhabitants those dwellings contain, much less have clear and distinct ideas of them.

Or because of their minuteness.—A great part of the various ranks of bodies in the universe escapes our notice by its remoteness; indeed, by far the greatest part does. There are other bodies that are no less hidden from us by their minuteness. These insensible corpuscles are the active parts of matter and the great instruments of nature. On them depend not only all the secondary qualities of bodies but also most of their natural operations. So our lack of precise, distinct ideas of their primary qualities keeps us in an incurable ignorance of what we want to know about them.

I do not doubt that if we could discover the figure, size, texture, and motion of the minute constituent parts of any two bodies, we should know several of their operations on one another without trying them. We would know them as we now know the properties of a square or a triangle.

Suppose we knew the mechanical properties of the particles of rhubarb, hemlock, opium, and a man. We would know them as a watchmaker knows the properties of a watch, by which it performs its operations, and of a file, which by rubbing on the wheels will alter the shape of any of them. We should then be able to tell beforehand

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that a little piece of paper laid on the balance will keep the watch from going, till it be removed; or that, some small part of it being rubbed by a file, the machine would quite lose its motion, and the watch go no more.

The dissolving of silver in aqua fortis, and gold in aqua regia, and not vice versa, would be then perhaps no more difficult to know, than it is to a smith to understand why the turning of one key will open a lock, and not the turning of another. But whilst we are destitute of senses acute enough to discover the minute particles of bodies, and to give us ideas of their mechanical affections, we must be content to be ignorant of their properties and ways of operation; nor can we be assured about them any farther than some few trials we make are able to reach. But whether they will succeed again another time we cannot be certain.

This hinders our certain knowledge of universal truths concerning natural bodies; and our reason carries us herein very little beyond particular matter of fact.

4.3.26 *Hence no science of bodies.*—And therefore I am apt to doubt, that how far soever human industry may advance useful and experimental philosophy in physical things, scientifical will still be out of our reach; because we want perfect and adequate ideas of those very bodies which are nearest to us, and most under our command. Those which we have ranked into classes under names, and we think ourselves best acquainted with, we have but very imperfect and incomplete ideas of. Distinct ideas of the several sorts of bodies that fall under the examination of our senses perhaps we may have; but adequate ideas, I suspect, we have not of any one among them.

And though the former of these will serve us for common use and discourse, yet whilst we want the latter, we are not capable of scientifical knowledge; nor shall ever be able to discover general, instructive, unquestionable truths concerning them. Certainty and demonstration

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that rhubarb will purge, hemlock kill, and opium make a man sleep. We could tell this as well as a watchmaker can tell that a little piece of paper laid on the balance will keep the watch from going until it is removed. He can also tell that if some small part of it is rubbed by a file, the machine will entirely lose its motion and the watch will go no more.

Silver dissolves in aqua fortis and gold in aqua regia, and not the other way round. That would then perhaps be no harder to know than it is for a smith to understand why turning one key will open a lock and turning another will not. But we lack senses sharp enough to discover the minute particles of bodies and give us ideas of their mechanical properties. As long as we do, we must be content to be ignorant of their properties and ways of operating. Nor can we be assured about them any further than a few trials we make are able to reach. And whether those trials will succeed again another time we cannot be certain.[7]

This hinders our certain knowledge of universal truths about natural bodies. Here our reason carries us very little beyond particular matters of fact.

Hence no science of bodies.—However far human industry may advance useful and experimental philosophy in physical things, I am inclined to doubt that scientific knowledge will ever be within our reach. For we lack perfect and adequate ideas of those very bodies that are nearest to us and most under our command. Some bodies we have ranked into classes under names and think we are best acquainted with, yet we have only very imperfect and incomplete ideas even of these. Perhaps we may have distinct ideas of the several sorts of bodies that fall under the examination of our senses. But adequate ideas, I suspect, we have of none of them.

The first of these will serve us for common use and conversation. But as long as we lack the second, we are not capable of scientific knowledge. Nor shall we ever be able to discover general, instructive, unquestionable truths about these bodies. In these matters we must not lay claim to certainty and demonstration.

7 Aqua fortis is nitric acid.

are things we must not, in these matters, pretend to.

By the colour, figure, taste, and smell, and other sensible qualities, we have as clear and distinct ideas of sage and hemlock, as we have of a circle and a triangle: but having no ideas of the particular primary qualities of the minute parts of either of these plants, nor of other bodies which we would apply them to, we cannot tell what effects they will produce; nor when we see those effects can we so much as guess, much less know, their manner of production.

Thus having no ideas of the particular mechanical affections of the minute parts of bodies that are within our view and reach, we are ignorant of their constitutions, powers, and operations: and of bodies more remote we are yet more ignorant, not knowing so much as their very outward shapes, or the sensible and grosser parts of their constitutions.

4.3.27 *Much less of spirits.*—This, at first, will show us how disproportionate our knowledge is to the whole extent even of material beings; to which, if we add the consideration of that infinite number of spirits that may be, and probably are, which are yet more remote from our knowledge, whereof we have no cognizance, nor can frame to ourselves any distinct ideas of their several ranks and sorts, we shall find this cause of ignorance conceal from us, in an impenetrable obscurity, almost the whole intellectual world; a greater certainly, and more beautiful world than the material.

For bating some very few, and those, if I may so call them, superficial ideas of spirit, which by reflection we get of our own, and from thence the best we can collect of the Father of all spirits, the eternal independent Author of them, and us, and all things; we have no certain information, so much as of the existence of other spirits, but by revelation. Angels of all sorts are naturally beyond our discovery: and all those intelligences whereof it is likely there are more orders than corporeal substances, are things whereof our natural faculties give us no certain account at all.

That there are minds and thinking beings in other men as well as himself, every man has a reason, from their words and actions, to be satisfied: and the knowledge of his own mind cannot suffer a

By their color, shape, taste, smell, and other sensible qualities, we have as clear and distinct ideas of sage and hemlock as we have of a circle and a triangle. But we have no ideas of the particular primary qualities of the minute parts of either plant, or of the other bodies we might apply them to. So we cannot tell what effects they will produce. And when we see those effects, we cannot so much as guess how they are produced, much less know it.

Thus we have no ideas of the particular mechanical properties of the minute parts of the bodies within our view and reach, and so we are ignorant of their constitutions, powers, and operations. Of more remote bodies we are still more ignorant. We do not know so much as their outward shapes, or the sensible and grosser parts of their constitutions.

Much less of spirits.—This will show us, to begin with, how far our knowledge falls short of the whole extent even of material beings. Now add the consideration of the infinite number of spirits that may exist, and probably do. They are still more remote from our knowledge: we have no acquaintance with them and can form no distinct ideas of their various ranks and sorts. We shall then find that this cause of ignorance hides almost the whole intellectual world from us in an impenetrable obscurity. And that is certainly a greater and more beautiful world than the material one.

We get a very few ideas of spirit, and superficial ones, if I may call them that, by reflecting on our own spirits. From these we gather the best we can about the Father of all spirits, the eternal, independent Author of them, of us, and of all things. Apart from these, we have no certain information even of the existence of other spirits except by revelation. Angels of all sorts are naturally beyond our discovery. There are likely more orders of such intelligences than of bodily substances, and our natural faculties give us no certain account of any of them at all.

Every man has reason, from the words and actions of other men, to be satisfied that there are minds and thinking beings in them as well as in himself. And the knowledge of his own mind cannot allow

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man, that considers, to be ignorant that there is a God. But that there are degrees of spiritual beings between us and the great God, who is there that by his own search and ability can come to know? Much less have we distinct ideas of their different natures, conditions, states, powers, and several constitutions, wherein they agree or differ from one another, and from us. And therefore in what concerns their different species and properties, we are under an absolute ignorance.

4.3.28 *Secondly, want of a discoverable connexion between ideas we have.*—Secondly, what a small part of the substantial beings that are in the universe, the want of ideas leaves open to our knowledge, we have seen. In the next place, another cause of ignorance, of no less moment, is a want of a discoverable connexion between those ideas we have. For wherever we want that, we are utterly incapable of universal and certain knowledge; and are, in the former case, left only to observation and experiment: which, how narrow and confined it is, how far from general knowledge, we need not be told. I shall give some few instances of this cause of our ignorance, and so leave it.

It is evident that the bulk, figure, and motion of several bodies about us, produce in us several sensations, as of colours, sounds, tastes, smells, pleasure and pain, &c. These mechanical affections of bodies having no affinity at all with those ideas they produce in us (there being no conceivable connexion between any impulse of any sort of body and any perception of a colour or smell, which we find in our minds) we can have no distinct knowledge of such operations beyond our experience; and can reason no otherwise about them than as effects produced by the appointment of an infinitely wise agent, which perfectly surpass our comprehensions.

As the ideas of sensible secondary qualities which we have in our minds, can by us be no ways deduced from bodily causes, nor any correspondence or connexion be found between them and those primary qualities which (experience shows us) produce them in us; so, on the other side, the operation of our minds upon our bodies is as inconceivable. How any thought should produce a motion in body is as remote from the nature of our ideas, as how any body

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a man who reflects to be ignorant that there is a God. But are there degrees of spiritual beings between us and the great God? Who is there who can come to know that by his own inquiry and ability? Much less do we have distinct ideas of their different natures, conditions, states, powers, and various constitutions, or of how they agree with or differ from one another and from us. And therefore, in what concerns their different species and properties, we are in absolute ignorance.

Second, lack of a discoverable connection between the ideas we have.—Second: we have seen how small a part of the substantial beings in the universe the lack of ideas leaves open to our knowledge. Next, another cause of ignorance, of no less importance, is the lack of a discoverable connection between the ideas we do have. For wherever we lack that, we are utterly incapable of universal and certain knowledge. As in the former case, we are left only to observation and experiment. We need not be told how narrow and confined that is, or how far from general knowledge. I shall give a few instances of this cause of our ignorance and then leave it.

It is evident that the bulk, figure, and motion of various bodies around us produce various sensations in us, such as colors, sounds, tastes, smells, pleasure and pain, and so on. These mechanical properties of bodies have no affinity at all with the ideas they produce in us. For there is no conceivable connection between any impulse of any sort of body and any perception of a color or smell that we find in our minds. So we can have no distinct knowledge of such operations beyond our experience. We can reason about them only as effects produced by the appointment of an infinitely wise agent, effects that wholly surpass our comprehension.

Experience shows us that primary qualities produce in us the ideas of sensible secondary qualities. Yet we can in no way deduce those ideas from their bodily causes, nor find any correspondence or connection between the two. In the same way, on the other side, the operation of our minds on our bodies is just as inconceivable. How any thought should produce a motion in a body is as remote from the nature of our ideas as how any body should produce any thought in the mind. If

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should produce any thought in the mind. That it is so, if experience did not convince us, the consideration of the things themselves would never be able in the least to discover to us.

These, and the like, though they have a constant and regular connexion, in the ordinary course of things; yet that connexion being not discoverable in the ideas themselves, which appearing to have no necessary dependence one on another, we can attribute their connexion to nothing else but the arbitrary determination of that all-wise agent, who has made them to be, and to operate as they do, in a way wholly above our weak understandings to conceive.

4.3.29 *Instances.*—In some of our ideas there are certain relations, habitudes, and connexions, so visibly included in the nature of the ideas themselves, that we cannot conceive them separable from them by any power whatsoever. And in these only we are capable of certain and universal knowledge. Thus the idea of a right-lined triangle necessarily carries with it an equality of its angles to two right ones. Nor can we conceive this relation, this connexion, or these two ideas, to be possibly mutable, or to depend on any arbitrary power, which of choice made it thus, or could make it otherwise. But the coherence and continuity of the parts of matter; the production of sensation in us of colours and sounds, &c.

by impulse and motion; nay, the original rules and communication of motion being such, wherein we can discover no natural connexion with any ideas we have; we cannot but ascribe them to the arbitrary will and good pleasure of the wise architect. I need not, I think, here mention the resurrection of the dead, the future state of this globe of earth, and such other things, which are by every one acknowledged to depend wholly on the determination of a free agent.

The things that, as far as our observation reaches, we constantly find to proceed regularly, we may conclude do act by a law set them; but yet by a law that we know not: whereby, though causes work steadily, and effects constantly flow from them, yet their connexion and dependences being not discoverable in our ideas, we can have but an experimental knowledge of them. From all which it is easy to perceive what a darkness we are

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experience did not convince us that it is so, the consideration of the things themselves could never in the least reveal it to us.

These and the like have a constant and regular connection in the ordinary course of things. Yet that connection is not discoverable in the ideas themselves, which appear to have no necessary dependence on one another. So we can attribute their connection to nothing but the arbitrary determination of the all-wise agent who has made them to be, and to operate as they do. He has done so in a way wholly beyond our weak understandings to conceive.

Instances.—In some of our ideas there are certain relations, bearings, and connections so visibly included in the nature of the ideas themselves that we cannot conceive any power whatsoever separating them. And in these alone we are capable of certain and universal knowledge. Thus the idea of a straight-sided triangle necessarily carries with it the equality of its angles to two right angles. Nor can we conceive that this relation, this connection, or these two ideas could possibly change. We cannot conceive it depending on some arbitrary power that chose to make it so or could make it otherwise. But the cohesion and continuity of the parts of matter; the production in us of sensations of colors, sounds, and so on,

by impulse and motion; indeed, even the original rules and communication of motion: in all these we can discover no natural connection with any ideas we have. So we cannot help ascribing them to the arbitrary will and good pleasure of the wise architect. I need not, I think, mention here the resurrection of the dead, the future state of this globe of earth, and other such things. Everyone acknowledges that these depend wholly on the determination of a free agent.

Some things, as far as our observation reaches, we constantly find proceeding regularly. We may conclude that they act by a law set for them, but it is a law that we do not know. Causes work steadily, and effects constantly flow from them. Yet their connections and dependencies are not discoverable in our ideas, and so we can have only an experimental knowledge of them. From all this it is easy to see what darkness we are wrapped in, and

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involved in, how little it is of being, and the things that are, that we are capable to know.

And therefore we shall do no injury to our knowledge, when we modestly think with ourselves, that we are so far from being able to comprehend the whole nature of the universe, and all the things contained in it, that we are not capable of a philosophical knowledge of the bodies that are about us, and make a part of us: concerning their secondary qualities, powers, and operations, we can have no universal certainty. Several effects come every day within the notice of our senses, of which we have so far sensitive knowledge; but the causes, manner and certainty of their production, for the two foregoing reasons, we must be content to be very ignorant of.

In these we can go no farther than particular experience informs us of matter of fact, and by analogy to guess what effects the like bodies are, upon other trials, like to produce. But as to a perfect science of natural bodies (not to mention spiritual beings) we are, I think, so far from being capable of any such thing, that I conclude it lost labour to seek after it.

4.3.30 *Thirdly, want of tracing our ideas.*—Thirdly, where we have adequate ideas, and where there is a certain and discoverable connexion between them, yet we are often ignorant, for want of tracing those ideas which we have, or may have, and for want of finding out those intermediate ideas, which may show us what habitude of agreement or disagreement they have one with another. And thus many are ignorant of mathematical truths, not out of any imperfection of their faculties, or uncertainty in the things themselves, but for want of application in acquiring, examining, and by due ways comparing those ideas.

That which has most contributed to hinder the due tracing of our ideas, and finding out their relations, and agreements or disagreements one with another, has been, I suppose, the ill use of words. It is impossible that men should ever truly seek, or certainly discover the agreement or disagreement of ideas themselves, whilst their thoughts flutter about or stick only in sounds of doubtful and uncertain significations. Mathematicians abstracting their thoughts from

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how little of being, and of the things that are, we are capable of knowing.

And so we shall do no harm to our knowledge if we modestly reflect on our limits. We are so far from being able to comprehend the whole nature of the universe and all the things in it that we are not capable of a philosophical knowledge even of the bodies that are around us and make up a part of us. We can have no universal certainty about their secondary qualities, powers, and operations. Various effects come every day to the notice of our senses, and of these we have sensitive knowledge so far. But for the two reasons already given, we must be content to be very ignorant of the causes, manner, and certainty of their production.

In these matters we can go no further than what particular experience tells us about matters of fact. By analogy we can guess what effects similar bodies are likely to produce in other trials. But a perfect science of natural bodies, not to mention spiritual beings, is another matter. I think we are so far from being capable of any such thing that I conclude it is wasted labor to look for it.

Third, failure to trace our ideas.—Third, we may have adequate ideas, and there may be a certain and discoverable connection between them, and still we are often ignorant. This happens because we fail to trace the ideas we have or may have. We also fail to find the intermediate ideas that could show us what relation of agreement or disagreement they have with one another. Thus many people are ignorant of mathematical truths, and not from any imperfection of their faculties or uncertainty in the things themselves. They are ignorant for lack of application in acquiring, examining, and properly comparing those ideas.

What has most hindered the proper tracing of our ideas has been, I suppose, the misuse of words. It has kept us from finding out their relations, and their agreements or disagreements with one another. Men can never truly seek, or certainly discover, the agreement or disagreement of ideas themselves while their thoughts flutter about or stick only in sounds of doubtful and uncertain meaning. Mathematicians abstract their thoughts from names. They accustom themselves to set be-

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names, and accustoming themselves to set before their minds the ideas themselves that they would consider, and not sounds instead of them, have avoided thereby a great part of that perplexity, puddering, and confusion, which have so much hindered men's progress in other parts of knowledge.

For whilst they stick in words of undetermined and uncertain signification, they are unable to distinguish true from false, certain from probable, consistent from inconsistent, in their own opinions. This having been the fate or misfortune of a great part of men of letters, the increase brought into the stock of real knowledge has been very little, in proportion to the schools, disputes, and writings, the world has been filled with; whilst students, being lost in the great wood of words, knew not whereabout they were, how far their discoveries were advanced, or what was wanting in their own or the general stock of knowledge.

Had men, in the discoveries of the material, done as they have in those of the intellectual world, involved in all the obscurity of uncertain and doubtful ways of talking, volumes writ of navigation and voyages, theories and stories of zones and tides, multiplied and disputed; nay, ships built, and fleets sent out, would never have taught us the way beyond the line; and the antipodes would be still as much unknown as when it was declared heresy to hold there were any. But having spoken sufficiently of words, and the ill or careless use that is commonly made of them, I shall not say any thing more of it here.

4.3.31 *Extent in respect to universality.*—Hitherto we have examined the extent of our knowledge, in respect of the several sorts of beings that are. There is another extent of it, in respect of universality, which will also deserve to be considered; and in this regard, our knowledge follows the nature of our ideas. If the ideas are abstract, whose agreement or disagreement we perceive, our knowledge is universal. For what is known of such general ideas, will be true of every particular thing, in whom that essence, *i. e.* that abstract idea, is to be found; and what is once

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fore their minds the very ideas they want to consider, and not sounds in their place. In this way they have avoided a great part of the perplexity, muddling, and confusion that have so hindered men's progress in other parts of knowledge.

For while men stick in words of undetermined and uncertain meaning, they are unable to distinguish true from false, certain from probable, and consistent from inconsistent in their own opinions. This has been the fate or misfortune of a great many men of letters. As a result, very little has been added to the stock of real knowledge, compared with all the schools, disputes, and writings the world has been filled with. Meanwhile students were lost in the great wood of words. They did not know where they were, how far their discoveries had advanced, or what was lacking in their own or in the general stock of knowledge.

Suppose men had dealt with discoveries in the material world as they have with those in the intellectual world, wrapping everything in the obscurity of uncertain and doubtful ways of talking. Then volumes might have been written on navigation and voyages, and theories and stories of zones and tides multiplied and disputed. Ships might even have been built and fleets sent out. None of it would ever have taught us the way beyond the equator. The antipodes would still be as unknown as when it was declared heresy to hold that there were any. But I have said enough about words, and about the misuse or careless use commonly made of them, so I shall say nothing more about it here.[8]

Extent in respect of universality.—So far we have examined the extent of our knowledge with respect to the various sorts of beings that exist. Its extent with respect to universality also deserves consideration, and in this regard our knowledge follows the nature of our ideas. If the ideas whose agreement or disagreement we perceive are abstract, our knowledge is universal. For what is known of such general ideas will be true of every particular thing in which that essence, that is, that abstract

8 The antipodes: people living on the opposite side of the globe. Augustine had doubted their existence, and Pope Zachary (748) condemned Virgil of Salzburg's alleged teaching of "another world" beneath the earth.

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known of such ideas will be perpetually and forever true.

So that as to all general knowledge, we must search and find it only in our minds, and it is only the examining of our own ideas that furnisheth us with that. Truths belonging to essences of things, (that is, to abstract ideas) are eternal, and are to be found out by the contemplation only of those essences: as the existences of things are to be known only from experience. But having more to say of this in the chapters where I shall speak of general and real knowledge, this may here suffice as to the universality of our knowledge in general.

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idea, is found. And what is once known of such ideas will be perpetually and forever true.

So we must seek and find all general knowledge only in our own minds, and only the examination of our own ideas supplies it. Truths belonging to the essences of things (that is, to abstract ideas) are eternal. They are to be found out only by contemplating those essences, just as the existence of things is to be known only from experience. But I have more to say about this in the chapters where I shall speak of general and real knowledge. So this may suffice here as to the universality of our knowledge in general.

THE REALITY OF KNOWLEDGE

Locke answers the objection that knowledge of ideas may be mere fancy, beginning with simple ideas.

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4.4.1 *Objection. Knowledge placed in ideas, may be all bare vision.*—I doubt not but my reader by this time may be apt to think, that I have been all this while only building a castle in the air; and be ready to say to me, "to what purpose all this stir? Knowledge, say you, is only the perception of the agreement or disagreement of our own ideas: but who knows what those ideas may be? Is there any thing so extravagant as the imaginations of men's brains? Where is the head that has no chimeras in it?

Or, if there be a sober and a wise man, what difference will there be, by your rules, between his knowledge and that of the most extravagant fancy in the world? They both have their ideas, and perceive their agreement and disagreement one with another. If there be any difference between them, the advantage will be on the warm-headed man's side, as having the more ideas, and the more lively and so, by your rules, he will be the more knowing. If it be true that all knowledge lies only in the perception of the agreement or disagreement of our own ideas, the visions of an enthusiast, and the reasonings of a sober man, will be equally certain.

It is no matter how things are; so a man observe but the agreement of his own imaginations, and talk conformably, it is all truth, all certainty. Such castles in the air will be as strong holds of truth, as the demonstrations of Euclid. That a harpy is not a centaur is by this way as certain knowledge,

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Objection: knowledge placed in ideas may be all bare vision.—I do not doubt that by now my reader may be inclined to think that all this while I have only been building a castle in the air. He may be ready to say to me: “What is the point of all this fuss? Knowledge, you say, is only the perception of the agreement or disagreement of our own ideas. But who knows what those ideas may be? Is anything so extravagant as the imaginings of men’s brains? Where is the head that has no chimeras in it?

Or suppose there is a sober and wise man. By your rules, what difference will there be between his knowledge and that of the most extravagant imagination in the world? They both have their ideas and perceive their agreement and disagreement with one another. If there is any difference between them, the advantage will be on the hot-headed man’s side, since he has more ideas and livelier ones. So, by your rules, he will be the more knowledgeable. If all knowledge lies only in the perception of the agreement or disagreement of our own ideas, then the visions of an enthusiast and the reasonings of a sober man will be equally certain.

It makes no difference how things are. So long as a man observes the agreement of his own imaginings and talks consistently with them, it is all truth, all certainty. Such castles in the air will be as strong fortresses of truth as the demonstrations of Euclid. On this approach, it is as certain know-

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and as much a truth, as that a square is not a circle.

"But of what use is all this fine knowledge of men's own imaginations to a man that inquires after the reality of things? It matters not what men's fancies are; it is the knowledge of things that is only to be prized: it is this alone gives a value to our reasonings, and preference to one man's knowledge over another's; that it is of things as they really are, and not of dreams and fancies."

4.4.2 *Answer, Not so, where ideas agree with things.*—To which I answer, that if our knowledge of our ideas terminate in them, and reach no farther, where there is something farther intended, our most serious thoughts will be of little more use than the reveries of a crazy brain; and the truths built thereon of no more weight than the discourses of a man, who sees things clearly in a dream, and with great assurance utters them.

But I hope, before I have done, to make it evident, that this way of certainty, by the knowledge of our own ideas, goes a little farther than bare imagination: and I believe it will appear that all the certainty of general truths a man has, lies in nothing else.

4.4.3 —It is evident the mind knows not things immediately, but only by the intervention of the ideas it has of them. Our knowledge therefore is real, only so far as there is a conformity between our ideas and the reality of things. But what shall be here the criterion? How shall the mind, when it perceives nothing but its own ideas, know that they agree with things themselves? This, though it seems not to want difficulty, yet I think, there be two sorts of ideas, that, we may be assured, agree with things.

4.4.4 *As* 1. *All simple ideas do.*—First, the first are simple ideas, which, since the mind, as has been shown, can by no means make to itself must necessarily be the product of things operating on the mind in a natural way, and producing therein those perceptions which by the wisdom and will of our Maker they are ordained and adapted to.

From whence it follows, that simple ideas are no fictions of our fancies, but the natural and regular productions of things without us, really operating upon us, and so carry with them all the

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ledge, and as much a truth, that a harpy is not a centaur as that a square is not a circle.

“But what use is all this fine knowledge of men’s own imaginings to someone who is inquiring into the reality of things? It does not matter what men’s fancies are. Only knowledge of things is to be prized. This alone gives value to our reasonings and makes one man’s knowledge preferable to another’s: that it is of things as they really are, and not of dreams and fancies.”

Answer: not so, where ideas agree with things.—To this I answer as follows. Suppose our knowledge of our ideas ends in them and reaches no further, where something further is intended. Then our most serious thoughts will be of little more use than the daydreams of a disordered brain. The truths built on them will carry no more weight than the talk of a man who sees things clearly in a dream and states them with great assurance.

But I hope, before I am done, to make it evident that this way of certainty, through the knowledge of our own ideas, goes a little further than bare imagination. And I believe it will appear that all the certainty of general truths a man has lies in nothing else.

—It is evident that the mind does not know things immediately, but only through the intervention of the ideas it has of them. Our knowledge, therefore, is real only so far as there is a conformity between our ideas and the reality of things. But what is to be the criterion here? The mind perceives nothing but its own ideas, so how shall it know that they agree with things themselves? This does not seem free of difficulty. Still, I think there are two sorts of ideas that we may be assured agree with things.

As 1. *All simple ideas do.*—First, the first are simple ideas. As has been shown, the mind can in no way make these for itself. So they must necessarily be the product of things operating on the mind in a natural way. These things produce in the mind the perceptions that the wisdom and will of our Maker have ordained and adapted them to produce.

It follows that simple ideas are not fictions of our fancy. They are the natural and regular productions of things outside us that really operate on us. So they carry with them all the conformity that is

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conformity which is intended, or which our state requires; for they represent to us things, under those appearances which they are fitted to produce in us, whereby we are enabled to distinguish the sorts of particular substances, to discern the states they are in, and so to take them for our necessities, and to apply them to our uses.

Thus the idea of whiteness, or bitterness, as it is in the mind, exactly answering that power which is in any body to produce it there, has all the real conformity it can, or ought to have with things without us. And this conformity between our simple ideas, and the existence of things, is sufficient for real knowledge.

4.4.5 2. *All complex ideas, except of substances.*—Secondly, all our complex ideas, except those of substances, being archetypes of the mind's own making, not intended to be the copies of any thing, nor referred to the existence of any thing, as to their originals, cannot want any conformity necessary to real knowledge.

For that which is not designed to represent any thing but itself, can never be capable of a wrong representation, nor mislead us from the true apprehension of any thing, by its dislikeness to it; and such, excepting those of substances, are all our complex ideas; which, as I have shown in another place, are combinations of ideas, which the mind, by its free choice, puts together, without considering any connexion they have in nature. And hence it is, that in all these sorts the ideas themselves are considered as the archetypes, and things no otherwise regarded, but as they are conformable to them.

So that we cannot but be infallibly certain, that all the knowledge we attain concerning these ideas is real, and reaches things themselves; because in all our thoughts, reasonings, and discourses of this kind, we intend things no farther than as they are conformable to our ideas. So that in these we cannot miss of a certain and undoubted reality.

4.4.6 *Hence the reality of mathematical knowledge.*—I doubt not but it will be easily granted, that the knowledge we have of mathematical truths is not only certain, but real knowledge; and not the bare empty vision of vain insignificant chimeras of the brain and yet, if we will consider, we shall find

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intended, or that our condition requires. For they represent things to us under the appearances those things are fitted to produce in us. By them we are enabled to distinguish the sorts of particular substances and to discern the states they are in. And so we can take them for our needs and apply them to our uses.

Thus the idea of whiteness or bitterness, as it is in the mind, corresponds exactly to the power in any body to produce it there. So it has all the real conformity it can or should have with things outside us. And this conformity between our simple ideas and the existence of things is sufficient for real knowledge.

2. *All complex ideas, except those of substances.*—Second, all our complex ideas except those of substances are archetypes of the mind's own making. They are not intended to be copies of anything, and they are not referred to the existence of anything as their originals. So they cannot lack any conformity necessary to real knowledge.

For what is not designed to represent anything but itself can never represent wrongly. Nor can it mislead us from the true apprehension of anything by being unlike it. And all our complex ideas are of this kind, except those of substances. As I have shown elsewhere, they are combinations of ideas which the mind puts together by its free choice, without considering any connection they have in nature. Hence in all these sorts the ideas themselves are considered as the archetypes, and things are regarded only insofar as they conform to them.

So we cannot help being infallibly certain that all the knowledge we attain concerning these ideas is real and reaches things themselves. For in all our thoughts, reasonings, and discourses of this kind, we mean to speak of things only so far as they conform to our ideas. So in these we cannot fail of a certain and undoubted reality.

Hence the reality of mathematical knowledge.—I do not doubt that it will be readily granted that our knowledge of mathematical truths is not only certain but real knowledge. It is not the bare, empty vision of vain, meaningless chimeras of the brain. And yet, if we consider, we shall find that it is only

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that it is only of our own ideas. The mathematician considers the truth and properties belonging to a rectangle, or circle, only as they are in idea in his own mind. For it is possible he never found either of them existing mathematically, *i. e.* precisely true, in his life.

But yet the knowledge he has of any truths or properties belonging to a circle, or any other mathematical figure, are nevertheless true and certain, even of real things existing; because real things are no farther concerned, nor intended to be meant by any such propositions, than as things really agree to those archetypes in his mind. Is it true of the idea of a triangle, that its three angles are equal to two right ones? It is true also of a triangle, wherever it really exists.

Whatever other figure exists, that is not exactly answerable to the idea of a triangle in his mind, is not at all concerned in that proposition: and therefore he is certain all his knowledge concerning such ideas is real knowledge; because intending things no farther than they agree with those his ideas, he is sure what he knows concerning those figures, when they have barely an ideal existence in his mind, will hold true of them also, when they have a real existence in matter; his consideration being barely of those figures, which are the same, whereever or however they exist.

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of our own ideas. The mathematician considers the truth and properties belonging to a rectangle or circle only as they are in idea in his own mind. For it is possible that he has never in his life found either of them existing mathematically, that is, precisely true.

Yet the knowledge he has of any truths or properties belonging to a circle, or any other mathematical figure, is nonetheless true and certain, even of real existing things. For such propositions concern and mean real things only so far as those things really agree with the archetypes in his mind. Is it true of the idea of a triangle that its three angles are equal to two right angles? Then it is also true of a triangle wherever one really exists.

Any other existing figure that does not exactly correspond to the idea of a triangle in his mind is not concerned in that proposition at all. And therefore he is certain that all his knowledge concerning such ideas is real knowledge. He means to speak of things only so far as they agree with those ideas of his. So he is sure that what he knows about those figures when they merely exist as ideas in his mind will also hold true of them when they have a real existence in matter. For what he is considering is simply those figures, which are the same wherever or however they exist.

MATHEMATICAL AND MORAL KNOWLEDGE ARE REAL

Ideas made by the mind as archetypes give real knowledge, even if nothing exactly matches them.

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4.4.7 *And of moral.*—And hence it follows, that moral knowledge is as capable of real certainty as mathematics. For certainty being but the perception of the agreement or disagreement of our ideas; and demonstration nothing but the perception of such agreement, by the intervention of other ideas, or mediums; our moral ideas, as well as mathematical, being archetypes themselves, and so adequate and complete ideas; all the agreement of disagreement which we shall find in them will produce real knowledge, as well as in mathematical figures.

4.4.8 *Existence not required to make it real.*—For the attaining of knowledge and certainty, it is

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And of moral.—And hence it follows that moral knowledge is as capable of real certainty as mathematics. For certainty is only the perception of the agreement or disagreement of our ideas. And demonstration is nothing but the perception of such agreement through the intervention of other ideas, or mediums. Our moral ideas, like mathematical ones, are themselves archetypes, and so they are adequate and complete ideas. So all the agreement or disagreement we find in them will produce real knowledge, just as it does in mathematical figures.

Existence not required to make it real.—To attain knowledge and certainty, we need determinate

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requisite that we have determined ideas; and, to make our knowledge real, it is requisite that the ideas answer their archetypes. Nor let it be wondered, that I place the certainty of our knowledge in the consideration of our ideas, with so little care and regard (as it may seem) to the real existence of things; since most of those discourses, which take up the thoughts, and engage the disputes of those who pretend to make it their business to inquire after truth and certainty, will, I presume, upon examination, be found to be general propositions, and notions in which existence is not at all concerned.

All the discourses of the mathematicians about the squaring of a circle, conic sections, or any other part of mathematics, concern not the existence of any of those figures; but their demonstrations, which depend on their ideas, are the same, whether there be any square or circle existing in the world or no. In the same manner the truth and certainty of moral discourses abstracts from the lives of men, and the existence of those virtues in the world whereof they treat. Nor are Tully's Offices less true, because there is nobody in the world that exactly practices his rules, and lives up to that pattern of a virtuous man which he has given us, and which existed nowhere, when he writ, but in idea.

If it be true in speculation, *i. e.* in idea, that murder deserves death, it will also be true in reality of any action that exists conformable to that idea of murder. As for other actions, the truth of that proposition concerns them not. And thus it is of all other species of things, which have no other essences but those ideas which are in the minds of men.

4.4.9 *Nor will it be less true or certain, because moral ideas are of our own making and naming.*—But it will here be said, that if moral knowledge be placed in the contemplation of our own moral ideas, and those, as other modes, be of our own making, what strange notions will there be of justice and temperance! What confusion of virtues and vices, if every one may make what ideas of them he pleases?

No confusion nor disorder in the things themselves, nor in the reasonings about them: no

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ideas; and to make our knowledge real, the ideas must answer to their archetypes. No one should be surprised that I place the certainty of our knowledge in the consideration of our ideas, with so little care and regard (as it may seem) for the real existence of things. For most of the discussions that occupy the thoughts and engage the disputes of those who claim to make it their business to inquire after truth and certainty will, I presume, turn out on examination to be general propositions and notions in which existence is not concerned at all.

All the mathematicians' discussions about squaring the circle, conic sections, or any other part of mathematics are not concerned with the existence of any of those figures. Their demonstrations, which depend on their ideas, are the same whether or not any square or circle exists in the world. In the same way, the truth and certainty of moral discussions abstract from the lives of men and from the existence in the world of the virtues they treat. Cicero's *On Duties* is no less true because nobody in the world exactly practices his rules and lives up to the pattern of a virtuous man that he has given us. When he wrote, that pattern existed nowhere but in idea.[9]

If it is true in speculation, that is, in idea, that murder deserves death, it will also be true in reality of any action that exists in conformity with that idea of murder. As for other actions, the truth of that proposition does not concern them. And so it is with all other species of things that have no other essences than those ideas which are in men's minds.

Nor will it be less true or certain because moral ideas are of our own making and naming.—But here it will be said: if moral knowledge is placed in the contemplation of our own moral ideas, and those ideas, like other modes, are of our own making, what strange notions there will be of justice and temperance! What confusion of virtues and vices, if everyone may make whatever ideas of them he pleases!

There will be no confusion or disorder in the things themselves, nor in reasonings about them.

9 Cicero's *De Officiis* (44 BC), a standard text on moral duty.

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more than (in mathematics) there would be a disturbance in the demonstration, or a change in the properties of figures, and their relations one to another, if a man should make a triangle with four corners, or a trapezium with four right angles; that is, in plain English, change the names of the figures, and call that by one name which mathematicians call ordinarily by another.

For let a man make to himself the idea of a figure with three angles, whereof one is a right one, and call it, if he please, equilaterum, or trapezium, or any thing else, the properties of and demonstrations about that idea will be the same, as if he called it a rectangular triangle. I confess the change of the name, by the impropriety of speech, will at first disturb him, who knows not what idea it stands for; but as soon as the figure is drawn, the consequences and demonstration are plain and clear.

Just the same is it in moral knowledge; let a man have the idea of taking from others, without their consent, what their honest industry has possessed them of, and call this justice if he please. He that takes the name here without the idea put to it, will be mistaken, by joining another idea of his own to that name: but strip the idea of that name, or take it, such as it is, in the speaker's mind, and the same things will agree to it, as if you had called it injustice.

Indeed, wrong names in moral discourses breed usually more disorder, because they are not so easily rectified as in mathematics, where the figure, once drawn and seen, makes the name useless and of no force. For what need of a sign, when the thing signified is present and in view? But in moral names that cannot be so easily and shortly done, because of the many decompositions that go to the making up the complex ideas of those modes.

But yet for all this, miscalling of any of those ideas, contrary to the usual signification of the words of that language, hinders not but that we may have certain and demonstrative knowledge of their several agreements and disagreements, if we will carefully, as in mathematics, keep to the same precise ideas, and trace them in their several relations one to another, without being led away by their names. If we but separate the

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There would be no more than there would be in mathematics if a man were to make a triangle with four corners, or a trapezium with four right angles. That would not disturb the demonstration, or change the properties of figures and their relations to one another. In plain English, it would only change the names of the figures, calling by one name what mathematicians ordinarily call by another.

Let a man form for himself the idea of a figure with three angles, one of which is a right angle, and call it, if he likes, equilaterum, or trapezium, or anything else. The properties of that idea, and the demonstrations about it, will be the same as if he called it a right-angled triangle. I admit that the change of name, being an improper use of language, will at first confuse someone who does not know what idea it stands for. But as soon as the figure is drawn, the consequences and the demonstration are plain and clear.

It is just the same in moral knowledge. Let a man have the idea of taking from others, without their consent, what their honest industry has given them possession of, and let him call this justice if he likes. Anyone who takes the name here without the idea attached to it will be mistaken, because he joins to that name another idea of his own. But strip the idea of that name, or take it as it is in the speaker’s mind, and the same things will agree to it as if you had called it injustice.

Admittedly, wrong names in moral discussions usually breed more disorder, because they are not so easily corrected as in mathematics. There the figure, once drawn and seen, makes the name useless and of no force. For what need is there of a sign when the thing signified is present and in view? But with moral names that cannot be done so easily and quickly, because of the many layers of composition that go into making up the complex ideas of those modes.

Yet for all this, miscalling any of those ideas, contrary to the usual meaning of the words of that language, does not prevent us from having certain and demonstrative knowledge of their various agreements and disagreements. We need only, as in mathematics, carefully keep to the same precise ideas and trace them in their various relations to one another, without being led astray by their names. If we only separate the idea under consid-

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idea under consideration from the sign that stands for it, our knowledge goes equally on in the discovery of real truth and certainty, whatever sounds we make use of.

4.4.10 *Misnaming disturbs not the certainty of the knowledge.*—One thing more we are to take notice of, that where God, or any other lawmaker, hath defined any moral names, there they have made the essence of that species to which that name belongs; and there it is not safe to apply or use them otherwise: but in other cases it is bare impropriety of speech to apply them contrary to the common usage of the country. But yet even this too disturbs not the certainty of that knowledge, which is still to be had by a due contemplation and comparing of those even nicknamed ideas.

4.4.11 *Ideas of substances have their archetypes without us.*—Thirdly, there is another sort of complex ideas, which, being referred to archetypes without us, may differ from them, and so our knowledge about them may come short of being real. Such are our ideas of substances, which consisting of a collection of simple ideas, supposed taken from the works of nature, may yet vary from them, by having more or different ideas united in them, than are to be found united in the things themselves. From whence it comes to pass, that they may, and often do, fail of being exactly conformable to things themselves.

4.4.12 *So far as they agree with those, so far our knowledge concerning them is real.*—I say, then, that to have ideas of substances, which, by being conformable to things, may afford us real knowledge, it is not enough, as in modes, to put together such ideas as have no inconsistence, though they did never before so exist: *v. g.* the ideas of sacrilege or perjury, &c. were as real and true ideas before as after the existence of any such fact.

But our ideas of substances being supposed copies, and referred to archetypes without us, must still be taken from something that does or has existed; they must not consist of ideas put together at the pleasure of our thoughts, without any real pattern they were taken from, though we can perceive no inconsistence in such a combination. The reason whereof is, because we

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eration from the sign that stands for it, our knowledge proceeds equally well in the discovery of real truth and certainty, whatever sounds we use.

Misnaming does not disturb the certainty of the knowledge.—One more thing we should notice. Where God, or any other lawmaker, has defined any moral names, they have thereby made the essence of the species to which that name belongs, and there it is not safe to apply or use those names otherwise. In other cases, applying them contrary to the common usage of the country is merely an improper use of language. But even this does not disturb the certainty of that knowledge, which can still be had by duly contemplating and comparing those ideas, even when they are misnamed.

Ideas of substances have their archetypes outside us.—Third, there is another sort of complex ideas which, being referred to archetypes outside us, may differ from them, so that our knowledge about them may fall short of being real. Such are our ideas of substances. They consist of a collection of simple ideas supposedly taken from the works of nature. Yet they may differ from those works by having more ideas, or different ones, united in them than are found united in the things themselves. As a result they may, and often do, fail to conform exactly to the things themselves.

So far as they agree with those, so far our knowledge concerning them is real.—I say, then, that it takes more to have ideas of substances which, by conforming to things, may give us real knowledge. It is not enough, as it is with modes, to put together ideas that are not inconsistent with one another, even though they never existed together before. For example, the ideas of sacrilege or perjury were as real and true ideas before any such act took place as after.

But our ideas of substances are supposed to be copies, and are referred to archetypes outside us. So they must always be taken from something that exists or has existed. They must not consist of ideas put together as our thoughts please, without any real pattern they were taken from, even if we can perceive no inconsistency in such a combination. The reason is this. We do not know the real

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knowing not what real constitution it is of substances, whereon our simple ideas depend, and which really is the cause of the strict union of some of them one with another, and the exclusion of others; there are very few of them that we can be sure are, or are not, inconsistent in nature, any farther than experience and sensible observation reach.

Herein, therefore, is founded the reality of our knowledge concerning substances, that all our complex ideas of them must be such, and such only, as are made up of such simple ones as have been discovered to coexist in nature. And our ideas being thus true, though not, perhaps, very exact copies, are yet the subjects of real (as far as we have any) knowledge of them. Which (as has been already shown) will not be found to reach very far: but so far as it does, it will still be real knowledge. Whatever ideas we have, the agreement we find they have with others will still be knowledge. If those ideas be abstract, it will be general knowledge.

But to make it real concerning substances, the ideas must be taken from the real existence of things. Whatever simple ideas have been found to coexist in any substance, these we may with confidence join together again, and so make abstract ideas of substances. For whatever have once had a union, in nature, may be united again.

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constitution of substances on which our simple ideas depend, and which is really the cause why some of them are strictly united with one another and others excluded. So there are very few of them that we can be sure are, or are not, inconsistent in nature, beyond what experience and sensible observation reach.

Here, then, is the foundation of the reality of our knowledge concerning substances. All our complex ideas of them must be such, and only such, as are made up of simple ideas that have been discovered to coexist in nature. And our ideas, being true in this way, though perhaps not very exact copies, are still the subjects of real knowledge of them, as far as we have any. That knowledge, as has already been shown, will not be found to reach very far. But as far as it does reach, it will still be real knowledge. Whatever ideas we have, the agreement we find they have with others will still be knowledge. If those ideas are abstract, it will be general knowledge.

But to make it real knowledge concerning substances, the ideas must be taken from the real existence of things. Whatever simple ideas have been found to coexist in any substance, these we may confidently join together again, and so make abstract ideas of substances. For whatever has once been united in nature may be united again.

SPECIES, AND PEOPLE WITHOUT REASON

Locke argues from severely intellectually disabled people and malformed births that shape does not fix a species.

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4.4.13 *In our inquiries about substances, we must consider ideas, and not confine our thoughts to names, or species supposed set out by names.*—This, if we rightly consider, and confine not our thoughts and abstract ideas to names, as if there were or could be no other sort of things than what known names had already determined, and as it were set out; we should think of things with greater freedom and less confusion than perhaps we do.

It would possibly be thought a bold paradox, if not a very dangerous falsehood, if I should say, that some changelings, who have lived forty years together without any appearance of reason, are something between a man and a beast: which

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In our inquiries about substances, we must consider ideas, and not confine our thoughts to names, or to species supposed to be marked out by names.—Suppose we considered this rightly, and did not confine our thoughts and abstract ideas to names, as if there were, or could be, no other sorts of things than those that known names had already determined and, as it were, marked out. Then we would think about things with more freedom and less confusion than perhaps we do.

It might be thought a bold paradox, if not a very dangerous falsehood, if I were to say that some severely intellectually disabled people, who have lived for forty years without any appearance of reason, are something between a man and a beast.

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prejudice is founded upon nothing else but a false supposition, that these two names, man and beast, stand for distinct species so set out by real essences, that there can come no other species between them: whereas, if we will abstract from those names, and the supposition of such specific essences made by nature, wherein all things of the same denominations did exactly and equally partake;

if we would not fancy that there were a certain number of these essences, wherein all things, as in moulds, were cast and formed, we should find that the idea of the shape, motion, and life of a man without reason, is as much a distinct idea, and makes as much a distinct sort of things from man and beast, as the idea of the shape of an ass with reason would be different from either that of man or beast, and be a species of animal between or distinct from both.

4.4.14 *Objection against a changeling being something between a man and beast, answered.*—Here every body will be ready to ask, if changelings may be supposed something between man and beast, pray what are they? I answer changelings, which is as good a word to signify something different from the signification of man or beast, as the names man and beast are to have significations different one from the other. This, well considered, would resolve this matter, and show my meaning without any more ado.

But I am not so unacquainted with the zeal of some men, which enables them to spin consequences, and to see religion threatened whenever any one ventures to quit their forms of speaking, as not to foresee what names such a proposition as this is like to be charged with: and without doubt it will be asked, if changelings are something between man and beast, what will become of them in the other world? To which answer, first, it concerns me not to know or inquire. To their own Master they stand or fall. It will make their state neither better nor worse, whether we determine any thing of it or no.

They are in the hands of a faithful Creator and a bountiful Father, who disposes not of his creatures according to our narrow thoughts or

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But this prejudice rests on nothing but a false supposition: that these two names, man and beast, stand for distinct species so marked out by real essences that no other species can come between them. We should rather abstract from those names, and from the supposition of such specific essences made by nature, in which all things with the same name exactly and equally shared;

we should not imagine that there are a fixed number of these essences, in which all things were cast and formed as in molds. If we did this, we would find that the idea of the shape, motion, and life of a man without reason is just as distinct an idea as the idea of the shape of an ass with reason would be. It makes just as distinct a sort of thing from both man and beast, and would be a species of animal between the two, or distinct from both.

Objection against a severely intellectually disabled person's being something between man and beast, answered.—Here everybody will be ready to ask: if such people may be supposed to be something between man and beast, what, please, are they? I answer: they are simply what we call them. Our name for them is as good a word to signify something different from what man or beast signifies as the names man and beast are to have meanings different from each other. This, if well considered, would settle the matter and show my meaning without more ado.

But I know the zeal of some men, which enables them to spin out consequences and to see religion threatened whenever anyone ventures to depart from their ways of speaking. So I can foresee what names a proposition like this is likely to be charged with. No doubt it will be asked: if such people are something between man and beast, what will become of them in the other world? To this I answer, first, that it is not my concern to know or inquire. To their own Master they stand or fall. It will make their state neither better nor worse whether we decide anything about it or not.[10]

They are in the hands of a faithful Creator and a bountiful Father, who does not dispose of his creatures according to our narrow thoughts or

10 "To their own Master they stand or fall" echoes Romans 14:4.

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opinions, nor distinguishes them according to names and species of our contrivance. And we, that know so little of this present world we are in, may, I think, content ourselves without being peremptory in defining the different states which creatures shall come into when they go off this stage. It may suffice us, that he hath made known to all those who are capable of instruction, discoursing, and reasoning, that they shall come to an account, and receive according to what they have done in this body.

4.4.15 But, secondly, I answer, the force of these men's questions (viz. will you deprive changelings of a future state?) is founded on one of these two suppositions, which are both false. The first is, that all things that have the outward shape and appearance of a man, must necessarily be designed to an immortal future being after this life: or, secondly, that whatever is of human birth must be so. Take away these imaginations, and such questions will be groundless and ridiculous. I desire then those who think there is no more but an accidental difference between themselves and changelings, the essence in both being exactly the same, to consider whether they can imagine immortality annexed to any outward shape of the body?

The very proposing of it is, I suppose, enough to make them disown it. No one yet, that ever I heard of, how much soever immersed in matter, allowed that excellency to any figure of the gross sensible outward parts, as to affirm eternal life due to it, or a necessary consequence of it; or that any mass of matter should, after its dissolution here, be again restored hereafter to an everlasting state of sense, perception, and knowledge, only because it was moulded into this or that figure, and had such a particular frame of its visible parts.

Such an opinion as this, placing immortality in a certain superficial figure, turns out of doors all consideration of soul or spirit, upon whose account alone some corporeal beings have hitherto been concluded immortal, and others not. This is to attribute more to the outside than inside of things; and to place the excellency of a man more in the external shape of his body, than

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opinions, nor distinguish them according to names and species of our devising. We know so little of this present world we are in. So we may, I think, be content not to be dogmatic in defining the different states creatures will come into when they leave this stage. It may be enough for us that he has made known to all who are capable of instruction, discourse, and reasoning that they will come to an account, and receive according to what they have done in this body.[11]

But, second, I answer that the force of these men's questions (namely, "Will you deprive the severely intellectually disabled of a future state?") rests on one of two suppositions, both false. The first is that everything that has the outward shape and appearance of a man must necessarily be destined for an immortal existence after this life. The second is that whatever is of human birth must be. Take away these imaginings, and such questions will be groundless and ridiculous. Some think there is nothing more than an accidental difference between themselves and such people, the essence in both being exactly the same. I ask them, then, to consider whether they can imagine immortality attached to any outward shape of the body.

The very proposing of it is, I suppose, enough to make them disown it. No one I have ever heard of, however immersed in matter, has granted such excellence to any shape of the gross, sensible, outward parts as to affirm that eternal life is due to it, or is a necessary consequence of it. Nor has anyone claimed that any mass of matter, after its dissolution here, should be restored hereafter to an everlasting state of sense, perception, and knowledge, merely because it was molded into this or that shape and had a particular arrangement of its visible parts.

An opinion like this, placing immortality in a certain superficial shape, throws out of doors all consideration of soul or spirit. Yet on that account alone some corporeal beings have so far been concluded to be immortal, and others not. This is to attribute more to the outside of things than to the inside, and to place a man's excellence more in the external shape of his body than in the internal

11 The last words echo 2 Corinthians 5:10.

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internal perfections of his soul: which is but little better than to annex the great and inestimable advantage of immortality and life everlasting, which he has above other material beings,-to annex it, I say, to the cut of his beard, or the fashion of his coat.

For this or that outward mark of our bodies no more carries with it the hope of an eternal duration, than the fashion of a man's suit gives him reasonable grounds to imagine it will never wear out, or that it will make him immortal. It will perhaps be said, that nobody thinks that the shape makes any thing immortal, but it is the shape is the sign of a rational soul within, which is immortal. I wonder who made it the sign of any such thing: for barely saying it will not make it so. It would require some proofs to persuade one of it. No figure that I know speaks any such language.

For it may as rationally be concluded, that the dead body of a man, wherein there is to be found no more appearance or action of life than there is in a statue, has yet nevertheless a living soul in it, because of its shape, as that there is a rational soul in a changeling, because he has the outside of a rational creature; when his actions carry far less marks of reason with them, in the whole course of his life, than what are to be found in many a beast.

4.4.16 *Monsters.*—But it is the issue of rational parents, and must therefore be concluded to have a rational soul. I know not by what logic you must so conclude. I am sure this is a conclusion that men nowhere allow of. For if they did, they would not make bold, as every where they do, to destroy ill-formed and misshaped productions. Ay, but these are monsters. Let them be so; what will your drivelling, unintelligent, intractable changeling be? Shall a defect in the body make a monster; a defect in the mind (the far more noble, and, in the common phrase, the far more essential part), not?

Shall the want of a nose, or a neck, make a monster, and put such issue out of the rank of men; the want of reason and understanding, not? This is to bring all back again to what was exploded just now: this is to place all in the shape,

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perfections of his soul. Man has above other material beings the great and inestimable advantage of immortality and everlasting life. This opinion is little better than attaching that advantage, I say, to the cut of his beard or the fashion of his coat.

For this or that outward mark of our bodies no more carries with it the hope of eternal duration than the fashion of a man's suit gives him reasonable grounds to imagine that it will never wear out, or that it will make him immortal. Perhaps it will be said that nobody thinks the shape makes anything immortal, but that the shape is the sign of a rational soul within, which is immortal. I wonder who made it the sign of any such thing, for merely saying so will not make it so. It would take some proofs to persuade anyone of it. No shape that I know of speaks any such language.

Consider the dead body of a man, in which there is no more appearance or action of life than in a statue. It may just as rationally be concluded that it has a living soul in it because of its shape, as that there is a rational soul in a severely intellectually disabled person because he has the outside of a rational creature. Yet over the whole course of his life his actions show far fewer marks of reason than are found in many a beast.

Malformed births.—But, you say, it is the offspring of rational parents, and so must be concluded to have a rational soul. I do not know by what logic you must conclude that. I am sure it is a conclusion that people nowhere accept. For if they did, they would not venture, as they everywhere do, to destroy malformed and misshapen births. Yes, you say, but these are malformed births, not men. Let them be so; what, then, will your severely intellectually disabled person be, drooling, without understanding, and unteachable? Shall a defect in the body make a malformed birth of this kind, and a defect in the mind not? Yet the mind is the far nobler part and, as the common phrase goes, the far more essential one.

Shall the lack of a nose or a neck make such a birth, and put such offspring out of the rank of men, and the lack of reason and understanding not? This is to bring everything back to what was just now refuted. It is to place everything in the

and to take the measure of a man only by his outside.

To show that, according to the ordinary way of reasoning in this matter, people do lay the whole stress on the figure, and resolve the whole essence of the species of man (as they make it) into the outward shape, how unreasonable soever it be, and how much soever they disown it, we need but trace their thoughts and practice a little farther, and then it will plainly appear. The well-shaped changling is a man, has a rational soul, though it appear not; this is past doubt, say you.

Make the ears a little longer, and more pointed, and the nose a little flatter than ordinary, and then you begin to boggle: make the face yet narrower, flatter, and longer, and then you are at a stand: add still more and more of the likeness of a brute to it, and let the head be perfectly that of some other animal, then presently it is a monster; and it is demonstration with you that it hath no rational soul, and must be destroyed. Where now, I ask, shall be the just measure of the utmost bounds of that shape, that carries with it a rational soul?

For since there have been human fœtuses produced, half beast, and half man; and others three parts one, and one part the other; and so it is possible they may be in all the variety of approaches to the one or the other shape, and may have several degrees of mixture of the likeness of a man or a brute; I would gladly know what are those precise lineaments, which, according to this hypothesis, are, or are not capable of a rational soul to be joined to them. What sort of outside is the certain sign that there is, or is not such an inhabitant within?

For till that be done, we talk at random of man: and shall always, I fear, do so, as long as we give ourselves up to certain sounds, and the imaginations of settled and fixed species in nature, we know not what. But after all, I desire it may be considered, that those who think they have answered the difficulty by telling us, that a misshaped fœtus is a monster, run into the same fault they are arguing against, by constituting a species between man and beast. For what else, I pray, is their monster in the case (if the word monster signifies any thing at all) but something neither man nor beast, but partaking somewhat

shape, and to take the measure of a man only by his outside.

In the ordinary way of reasoning on this matter, people do lay the whole weight on the shape, and reduce the whole essence of the species man (as they make it) to the outward shape, however unreasonable that may be and however much they disown it. To show this, we need only trace their thoughts and practice a little further, and it will plainly appear. The well-shaped person without reason is a man and has a rational soul, though it does not appear. This is beyond doubt, you say.

Make the ears a little longer and more pointed, and the nose a little flatter than usual, and then you begin to hesitate. Make the face still narrower, flatter, and longer, and then you are at a loss. Add more and more of the likeness of a brute to it, and let the head be entirely that of some other animal, and at once it is a malformed birth, not a man. Then it is demonstrated, as far as you are concerned, that it has no rational soul and must be destroyed. Where now, I ask, is the exact measure of the outermost limits of the shape that carries a rational soul with it?

For there have been human fetuses produced that were half beast and half man, and others three parts one and one part the other. So it is possible that they may come in every degree of approach to the one shape or the other, with various degrees of mixture of the likeness of a man and of a brute. I would therefore gladly know what those precise features are which, on this hypothesis, are or are not capable of having a rational soul joined to them. What sort of outside is the sure sign that there is, or is not, such an inhabitant within?

Until that is settled, we talk at random about man. I fear we always will, so long as we give ourselves up to certain sounds and to imaginings of settled and fixed species in nature, we know not what. But after all, I ask that one thing be considered. Those who think they have answered the difficulty by telling us that a misshapen fetus is a malformed birth, and no man, fall into the very fault they are arguing against, by setting up a species between man and beast. For what else, I ask, is their malformed birth in this case (if the term signifies anything at all) but something that is neither man nor beast but shares somewhat in each? And the

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of either? And just so is the changeling beforementioned.

So necessary is it to quit the common notion of species and essences, if we will truly look into the nature of things, and examine them, by what our faculties can discover in them as they exist, and not by groundless fancies, that have been taken up about them.

4.4.17 *Words and species.*—I have mentioned this here, because I think we cannot be too cautious that words and species, in the ordinary notions which we have been used to of them, impose not on us. For I am apt to think, therein lies one great obstacle to our clear and distinct knowledge, especially in reference to substances; and from thence has risen a great part of the difficulties about truth and certainty.

Would we accustom ourselves to separate our contemplations and reasonings from words, we might, in a great measure, remedy this inconvenience within our own thoughts; but yet it would still disturb us in our discourse with others, as long as we retained the opinion, that species and their essences were any thing else but our abstract ideas (such as they are) with names annexed to them, to be the signs of them.

4.4.18 *Recapitulation.*—Wherever we perceive the agreement or disagreement of any of our ideas, there is certain knowledge: and wherever we are sure those ideas agree with the reality of things, there is certain real knowledge. Of which agreement of our ideas, with the reality of things, having here given the marks, I think I have shown wherein it is, that certainty, real certainty, consists: which, whatever it was to others, was, I confess, to me, heretofore, one of those desiderata which I found great want of.

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severely intellectually disabled person mentioned above is just that.

So necessary is it to give up the common notion of species and essences, if we want truly to look into the nature of things. We must examine them by what our faculties can discover in them as they exist, and not by the groundless fancies that have been adopted about them.

Words and species.—I have mentioned this here because I think we cannot be too careful that words and species, in the ordinary notions of them we have grown used to, do not deceive us. For I am inclined to think that this is one great obstacle to our clear and distinct knowledge, especially with respect to substances. A great part of the difficulties about truth and certainty have arisen from it.

If we accustomed ourselves to separate our contemplations and reasonings from words, we could to a great extent remedy this inconvenience within our own thoughts. But it would still trouble us in our discussions with others, as long as we held the opinion that species and their essences are anything other than our abstract ideas (such as they are) with names attached to them as their signs.

Recapitulation.—Wherever we perceive the agreement or disagreement of any of our ideas, there is certain knowledge. Wherever we are sure those ideas agree with the reality of things, there is certain real knowledge. I have given here the marks of this agreement of our ideas with the reality of things, and so I think I have shown what certainty, real certainty, consists in. Whatever it was to others, this was, I confess, formerly one of those desiderata, those things wanted, that I greatly missed.

TRUTH IN GENERAL

Truth is the right joining or separating of signs, in mental and in verbal propositions.

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4.5.1	*What truth is.*—What is truth? was an inquiry many ages since and it being that which all mankind either do, or pretend to search after, it cannot but be worth our while carefully to examine wherein it consists, and so acquaint ourselves with the nature of it, as to observe how the mind distinguishes it from falsehood.	*What truth is.*—"What is truth?" was a question asked many ages ago. All mankind either seek it or claim to seek it. So it must be worth our while to examine carefully what it consists in, and so to acquaint ourselves with its nature as to observe how the mind distinguishes it from falsehood.[12]
4.5.2	*A right joining or separating of signs, i. e. ideas or words.*—Truth, then, seems to me, in the proper import of the word, to signify nothing but the joining or separating of signs, as the things signified by them do agree or disagree one with another. The joining or separating of signs, here meant, is what by another name we call proposition. So that truth properly belongs only to propositions; whereof there are two sorts, viz. mental and verbal; as there are two sorts of signs commonly made use of, viz. ideas and words.	*A right joining or separating of signs, that is, of ideas or words.*—Truth, then, seems to me, in the proper sense of the word, to signify nothing but the joining or separating of signs, as the things signified by them agree or disagree with one another. The joining or separating of signs meant here is what by another name we call a proposition. So truth properly belongs only to propositions, of which there are two sorts, namely mental and verbal, just as there are two sorts of signs commonly used, namely ideas and words.
4.5.3	*Which make mental or verbal propositions.*—To form a clear notion of truth, it is very necessary to consider truth of thought and truth of words, distinctly one from another: but yet it is very difficult to treat of them asunder; because it is unavoidable, in treating of mental propositions, to make use of words; and then the instances given of mental propositions cease immediately to be barely mental, and become verbal. For a mental proposition being nothing but a bare consideration of the ideas, as they are in our minds, stripped of names, they lose the nature of purely mental propositions, as soon as they are put into words.	*Which make mental or verbal propositions.*—To form a clear notion of truth, it is very necessary to consider truth of thought and truth of words separately. Yet it is very difficult to treat them apart. For in treating mental propositions we cannot avoid using words, and then the examples given of mental propositions immediately cease to be merely mental and become verbal. A mental proposition is nothing but a bare consideration of the ideas as they are in our minds, stripped of names. So such propositions lose the nature of purely mental propositions as soon as they are put into words.
4.5.4	*Mental propositions are very hard to be treated of.*—And that which makes it yet harder to treat of mental and verbal propositions separately is, that most men, if not all, in their thinking and reasonings within themselves, make use of words instead of ideas; at least when the subject of their meditations contains in it complex ideas. Which is a great evidence of the imperfection and uncertainty of our ideas of that kind, and may, if attentively made use of, serve for a mark to show	*Mental propositions are very hard to treat of.*—What makes it still harder to treat mental and verbal propositions separately is that most men, if not all, use words instead of ideas in their thinking and reasoning within themselves. They do so at least when the subject of their meditations contains complex ideas. This is strong evidence of the imperfection and uncertainty of our ideas of that kind. If attentively used, it may serve as a mark to

12 Pilate's question to Jesus, John 18:38.

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us what are those things we have clear and perfect established ideas of, and what not.

For if we will curiously observe the way our mind takes in thinking and reasoning, we shall find, I suppose, that when we make any propositions within our own thoughts about white or black, sweet or bitter, a triangle or a circle, we can and often do frame in our minds the ideas themselves, without reflecting on the names.

But when we would consider, or make propositions about the more complex ideas, as of a man, vitriol, fortitude, glory, we usually put the name for the idea: because the ideas these names stand for, being for the most part imperfect, confused, and undetermined, we reflect on the names themselves, because they are more clear, certain, and distinct, and readier occur to our thoughts than the pure ideas; and so we make use of these words instead of the ideas themselves, even when we would meditate and reason within ourselves, and make tacit mental propositions.

In substances, as has been already noticed, this is occasioned by the imperfection of our ideas; we making the name stand for the real essence, of which we have no idea at all. In modes, it is occasioned by the great number of simple ideas that go to the making them up.

For many of them being compounded, the name occurs much easier than the complex idea itself, which requires time and attention to be recollected, and exactly represented to the mind, even in those men who have formerly been at the pains to do it; and is utterly impossible to be done by those, who, though they have ready in their memory the greatest part of the common words of that language, yet perhaps never troubled themselves in all their lives to consider what precise ideas the most of them stood for.

Some confused or obscure notions have served the turns, and many who talk very much of religion and conscience, of church and faith, of power and right, of obstructions and humours, melancholy and choler, would perhaps have little left in their thoughts and meditations, if one should desire them to think only of the things themselves, and lay by those words, with which they so often confound others, and not seldom themselves also.

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show us which things we have clear, perfect, established ideas of, and which not.

For if we closely observe the way our mind proceeds in thinking and reasoning, we shall find, I suppose, that when we make any propositions within our own thoughts about white or black, sweet or bitter, a triangle or a circle, we can, and often do, frame the ideas themselves in our minds without reflecting on the names.

But when we want to consider or make propositions about more complex ideas, such as those of a man, vitriol, fortitude, or glory, we usually put the name for the idea. The ideas these names stand for are for the most part imperfect, confused, and undetermined. So we reflect on the names themselves, because they are clearer, more certain and distinct, and come to mind more readily than the pure ideas. And so we use these words instead of the ideas themselves, even when we want to meditate and reason within ourselves and make tacit mental propositions.

With substances, as has already been noted, this is caused by the imperfection of our ideas: we make the name stand for the real essence, of which we have no idea at all. With modes, it is caused by the great number of simple ideas that go into making them up.

For since many of them are compounded, the name comes to mind much more easily than the complex idea itself. That idea takes time and attention to recollect and represent exactly to the mind, even for those who have previously taken the trouble to do it. Some people have most of the common words of their language ready in memory, yet perhaps never troubled themselves in their whole lives to consider what precise ideas most of those words stood for. For them it is utterly impossible.

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Some confused or obscure notions have served their turn. Many who talk a great deal about religion and conscience, church and faith, power and right, obstructions and humors, melancholy and choler, would perhaps have little left in their thoughts and meditations if one asked them to think only of the things themselves. They would have to set aside those words, with which they so often confuse others, and not seldom themselves as well.[13]

4.5.5 *—Being nothing but the joining or separating ideas without words.*—But to return to the consideration of truth: we must, I say, observe two sorts of propositions that we are capable of making.

Being nothing but the joining or separating of ideas without words.—But to return to the consideration of truth: we must, I say, note two sorts of propositions that we are capable of making.

First, mental, wherein the ideas in our understandings are without the use of words put together, or separated by the mind, perceiving or judging of their agreement or disagreement.

First, mental propositions. In these the ideas in our understandings are put together or separated by the mind without the use of words, as it perceives or judges of their agreement or disagreement.

Secondly, verbal propositions, which are words, the signs of our ideas, put together, or separated in affirmative or negative sentences. By which way of affirming or denying, these signs, made by sounds, are, as it were, put together, or separated one from another. So that proposition consists in joining or separating signs, and truth consists in the putting together, or separating those signs, according as the things which they stand for agree or disagree.

Second, verbal propositions, which are words, the signs of our ideas, put together or separated in affirmative or negative sentences. By this way of affirming or denying, these signs made by sounds are, as it were, put together or separated from one another. So a proposition consists in joining or separating signs. Truth consists in putting those signs together or separating them according as the things they stand for agree or disagree.

4.5.6 *When mental propositions contain real truth, and when verbal.*—Every one's experience will satisfy him, that the mind, either by perceiving or supposing the agreement or disagreement of any of its ideas, does tacitly within itself put them into a kind of proposition affirmative or negative, which I have endeavoured to express by the terms putting together and separating. But this action of the mind, which is so familiar to every thinking and reasoning man, is easy to be conceived by reflecting on what passes in us, when we affirm or deny, than to be explained by words. When a man has in his head the idea of two lines, viz.

When mental propositions contain real truth, and when verbal ones do.—Everyone's experience will satisfy him that the mind, by either perceiving or supposing the agreement or disagreement of any of its ideas, tacitly puts them within itself into a kind of proposition, affirmative or negative. I have tried to express this by the terms putting together and separating. This action of the mind is familiar to every thinking and reasoning man. But it is easier to conceive by reflecting on what goes on in us when we affirm or deny than to explain in words. Suppose a man has in his head the idea of two lines, namely

the side and diagonal of a square, whereof the diagonal is an inch long, he may have the idea also of the division of that line into a certain

the side and the diagonal of a square, the diagonal being an inch long. He may also have the idea of dividing that line into a certain number of equal

13 Obstructions, humors, melancholy and choler were terms of the humoral medicine of Locke's day.

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number of equal parts; *v. g.* into five, ten, a hundred, a thousand, or any other number, and may have the idea of that inch line being divisible, or not divisible, into such equal parts, as a certain number of them will be equal to the side-line. Now, whenever he perceives, believes or supposes such a kind of divisibility to agree or disagree to his idea of that line, he, as it were, joins or separates those two ideas, viz.

the idea of that line, and the idea of that kind of divisibility; and so makes a mental proposition, which is true or false, according as such a kind of divisibility, a divisibility into such aliquot parts, does really agree to that line or no. When ideas are so put together, or separated in the mind, as they, or the things they stand for, do agree or not, that is, as I may call it, mental truth. But truth of words is something more; and that is the affirming or denying of words one of another, as the idea they stand for agree or disagree: and this again is twofold; either purely verbal and trifling, which I shall speak of, chap. viii.

or real and instructive, which is the object of that real knowledge which we have spoken of already.

4.5.7 *Objection against verbal truth, that thus it may all be chimerical.*—But here again will be apt to occur the same doubt about truth, that did about knowledge: and it will be objected, that if truth be nothing but the joining and separating of words in propositions, as the idea they stand for agree or disagree in men's minds, the knowledge of truth is not so valuable a thing as it is taken to be, nor worth the pains and time men employ in the search of it; since by this account it amounts to no more than the conformity of words to the chimeras of men's brains.

Who knows not what odd notions many men's heads are filled with, and what strange ideas all men's brains are capable of? But if we rest here, we know the truth of nothing by this rule, but of the visionary words in our own imaginations; nor have other truth, but what as much concerns harpies and centaurs as men and horses. For those, and the like, may be ideas in our heads, and have their agreement and disagreement there, as well as the ideas of real beings, and so have as true propositions made about them.

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parts: for example, into five, ten, a hundred, a thousand, or any other number. And he may have the idea of that inch-long line being divisible, or not divisible, into such equal parts that a certain number of them will equal the side. Now, whenever he perceives, believes, or supposes that such a kind of divisibility agrees or disagrees with his idea of that line, he, as it were, joins or separates those two ideas, namely

the idea of that line and the idea of that kind of divisibility. And so he makes a mental proposition, which is true or false according as such a kind of divisibility, a divisibility into such aliquot parts, really does or does not agree with that line. When ideas are put together or separated in the mind as they, or the things they stand for, agree or not, that is what I may call mental truth. But truth of words is something more. It is the affirming or denying of words of one another as the ideas they stand for agree or disagree. And this again is of two kinds: either purely verbal and trifling, which I shall speak of in Chapter 8,

or real and instructive, which is the object of the real knowledge we have already spoken of.

Objection against verbal truth: that on this account it may all be chimerical.—But here the same doubt is apt to arise about truth as arose about knowledge. It will be objected that truth, on this account, is nothing but the joining and separating of words in propositions as the ideas they stand for agree or disagree in men's minds. If so, the knowledge of truth is not as valuable a thing as it is taken to be, nor worth the effort and time men spend searching for it. For it amounts to no more than the conformity of words to the chimeras of men's brains.

Who does not know what odd notions many men's heads are filled with, and what strange ideas all men's brains are capable of? But if we stop here, by this rule we know the truth of nothing but the visionary words in our own imaginations. We have no other truth than what concerns harpies and centaurs as much as men and horses. For those and the like may be ideas in our heads, and have their agreement and disagreement there just as the ideas of real beings do, and so have equally true propositions made about them.

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And it will be altogether as true a proposition to say all centaurs are animals, as that all men are animals; and the certainty of one as great as the other. For in both the propositions, the words are put together according to the agreement of the ideas in our minds; and the agreement of the idea of animal with that of centaur, is as clear and visible to the mind, as the agreement of the idea of animal with that of man: and so these two propositions are equally true, equally certain. But of what use is all such truth to us?

4.5.8 *Answered, real truth is about ideas agreeing of things.*—Though what has been said in the foregoing chapter, to distinguish real from imaginary knowledge, might suffice here, in answer to this doubt, to distinguish real truth from chimerical, or, if you please, barely nominal, they depending both on the same foundation; yet it may not be amiss here again to consider, that though our words signify nothing but our ideas, yet being designed by them to signify things, the truth they contain, when put into propositions, will be only verbal, when they stand for ideas in the mind, that have not an agreement with the reality of things.

And therefore truth, as well as knowledge, may well come under the distinction of verbal and real; that being only verbal truth, wherein terms are joined according to the agreement or disagreement of the ideas they stand for, without regarding whether our ideas are such as really have, or are capable of having, an existence in nature. But then it is they contain real truth, when these signs are joined, as our ideas agree; and when our ideas are such as we know are capable of having an existence in nature: which in substances we cannot know, but by knowing that such have existed.

4.5.9 *Falsehood is the joining of names otherwise than their ideas agree.*—Truth is the marking down in words the agreement or disagreement of ideas as it is. Falsehood is the marking down in words the agreement or disagreement of ideas otherwise than it is. And so far as these ideas, thus marked by sounds, agree to their archetypes, so far only is the truth real. The knowledge of this truth consists in knowing what ideas the words stand for, and the perception of the agreement or

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And it will be quite as true a proposition to say all centaurs are animals as that all men are animals, and the certainty of the one as great as of the other. For in both propositions the words are put together according to the agreement of the ideas in our minds. The agreement of the idea of animal with that of centaur is as clear and visible to the mind as the agreement of the idea of animal with that of man. So these two propositions are equally true, equally certain. But what use is all such truth to us?

Answered: real truth is about ideas agreeing with things.—The preceding chapter distinguished real from imaginary knowledge. What was said there might suffice here as an answer to this doubt, to distinguish real truth from chimerical or, if you like, merely nominal truth, since both rest on the same foundation. Yet it may not be amiss to consider here again that, although our words signify nothing but our ideas, still they are meant through our ideas to signify things. So the truth they contain when put into propositions will be only verbal when they stand for ideas in the mind that do not agree with the reality of things.

And so truth, like knowledge, may well fall under the distinction of verbal and real. Verbal truth is only that in which terms are joined according to the agreement or disagreement of the ideas they stand for, without regard to whether our ideas are such as really have, or can have, an existence in nature. But propositions contain real truth when these signs are joined as our ideas agree, and when our ideas are such as we know can exist in nature. In the case of substances, we cannot know this except by knowing that such things have existed.

Falsehood is the joining of names otherwise than their ideas agree.—Truth is the marking down in words of the agreement or disagreement of ideas as it is. Falsehood is the marking down in words of the agreement or disagreement of ideas otherwise than it is. And only so far as these ideas, thus marked by sounds, agree with their archetypes is the truth real. The knowledge of this truth consists in knowing what ideas the words stand for, and in perceiving the agreement or disagreement of those ideas as it is marked by those words.

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disagreement of those ideas, according as it is marked by those words.

4.5.10 *General propositions to be treated of more at large.*—But because words are looked on as the great conduits of truth and knowledge, and that in conveying and receiving of truth, and commonly in reasoning about it, we make use of words and propositions; I shall more at large inquire, wherein the certainty of real truths, contained in propositions, consists, and where it is to be had; and endeavour to show in what sort of universal propositions we are capable of being certain of their real truth or falsehood. I shall begin with general propositions, as those which most employ our thoughts, and exercise our contemplation.

General truths are most looked after by the mind, as those that most enlarge our knowledge; and by their comprehensiveness satisfying us at once of many particulars, enlarge our view, and shorten our way to knowledge.

4.5.11 *Moral and metaphysical truth.*—Besides truth, taken in the strict sense before mentioned, there are other sorts of truth; as, 1. Moral truth, which is speaking of things according to the persuasion of our own minds, though the proposition we speak agree not to the reality of things. 2. Metaphysical truth, which is nothing but the real existence of things, conformable to the ideas to which we have annexed their names. This, though it seems to consist in the very beings of things, yet, when considered a little nearly, will appear to include a tacit proposition, whereby the mind joins that particular thing to the idea it had before settled with a name to it.

But these considerations of truth, either having been before taken notice of, or not being much to our present purpose, it may suffice here only to have mentioned them.

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General propositions to be treated of more at length.—Words are regarded as the great channels of truth and knowledge. In conveying and receiving truth, and commonly in reasoning about it, we use words and propositions. So I shall inquire more at length into what the certainty of real truths contained in propositions consists in, and where it is to be had. I shall try to show in what sort of universal propositions we are capable of being certain of their real truth or falsehood. I shall begin with general propositions, as those that most occupy our thoughts and exercise our contemplation.

General truths are what the mind looks for most, as those that most enlarge our knowledge. By their comprehensiveness they satisfy us about many particulars at once, and so they enlarge our view and shorten our way to knowledge.

Moral and metaphysical truth.—Besides truth taken in the strict sense mentioned above, there are other sorts of truth. 1. Moral truth, which is speaking of things according to the persuasion of our own minds, even if the proposition we speak does not agree with the reality of things. 2. Metaphysical truth, which is nothing but the real existence of things in conformity with the ideas to which we have attached their names. This seems to consist in the very being of things. Yet when considered a little more closely, it will turn out to include a tacit proposition, by which the mind joins that particular thing to the idea it had previously settled, with a name attached.

But these considerations of truth either have been noticed before or are not much to our present purpose. So it may be enough here merely to have mentioned them.

UNIVERSAL PROPOSITIONS

Few universal propositions about substances can be known to be true, since real essences are unknown.

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4.6.1 *Treating of words necessary to knowledge.*—Though the examining and judging of ideas by themselves, their names being quite laid aside, be the best and surest way to clear and distinct knowledge; yet, through the prevailing custom of

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Treating of words is necessary to knowledge.—The best and surest way to clear and distinct knowledge is to examine and judge ideas by themselves, with their names quite set aside. Yet because of the pre-

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using sounds for ideas, I think it is very seldom practised. Every one may observe how common it is for names to be made use of, instead of the ideas themselves, even when men think and reason within their own breasts; especially if the ideas be very complex, and made up of a great collection of simple ones.

This makes the consideration of words and propositions so necessary a part of the treatise of knowledge, that it is very hard to speak intelligibly of the one without explaining the other.

4.6.2 *General truths hardly to be understood, but in verbal propositions.*—All the knowledge we have, being only of particular or general truths, it is evident that whatever may be done in the former of these, the latter, which is that which with reason is most sought after, can never be well made known, and is very seldom apprehended, but as conceived and expressed in words. It is not therefore out of our way, in the examination of our knowledge, to inquire into the truth and certainty of universal propositions.

4.6.3 *Certainty twofold, of truth and of knowledge.*—But that we may not be misled in this case, by that which is the danger everywhere, I mean by the doubtfulness of terms, it is fit to observe, that certainty is twofold; certainty of truth, and certainty of knowledge. Certainty of truth is, when words are so put together in propositions, as exactly to express the agreement or disagreement of the ideas they stand for, as really it is. Certainty of knowledge is to perceive the agreement or disagreement of ideas, as expressed in any proposition. This we usually call knowing, or being certain of the truth of any proposition.

4.6.4 *No proposition can be known to be true, where the essence of each species mentioned is not known.*—Now because we cannot be certain of the truth of any general proposition, unless we know the precise bounds and extent of the species its terms stand for, it is necessary we should know the essence of each species, which is that which constitutes and bounds it. This, in all simple ideas and modes, is not hard to do.

For in these, the real and nominal essence being the same; or, which is all one, the abstract idea which the general term stands for being the sole

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vailing custom of using sounds for ideas, I think this is very seldom practiced. Anyone may observe how common it is for names to be used instead of the ideas themselves, even when men think and reason within their own breasts. This is especially so if the ideas are very complex and made up of a large collection of simple ones.

This makes the consideration of words and propositions so necessary a part of a treatise on knowledge that it is very hard to speak intelligibly of the one without explaining the other.

General truths can hardly be understood except in verbal propositions.—All the knowledge we have is only of particular or general truths. Whatever may be done with the former, it is evident that the latter can never be well made known, and is very seldom grasped, except as conceived and expressed in words. Yet the latter is, with reason, what is most sought after. So it is not out of our way, in examining our knowledge, to inquire into the truth and certainty of universal propositions.

Certainty is twofold: of truth and of knowledge.—The danger everywhere is the doubtfulness of terms. So that we may not be misled by it here, it is fitting to observe that certainty is twofold: certainty of truth and certainty of knowledge. Certainty of truth is when words are so put together in propositions as to express exactly the agreement or disagreement of the ideas they stand for, as it really is. Certainty of knowledge is perceiving the agreement or disagreement of ideas as expressed in any proposition. This is what we usually call knowing, or being certain of, the truth of any proposition.

No proposition can be known to be true where the essence of each species mentioned is not known.—Now, since we cannot be certain of the truth of any general proposition unless we know the precise bounds and extent of the species its terms stand for, we need to know the essence of each species, which is what constitutes and bounds it. In all simple ideas and modes, this is not hard to do.

For in these the real and nominal essence are the same. Or, what comes to the same thing, the abstract idea that the general term stands for is the

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essence and boundary that is or can be supposed of the species; there can be no doubt how far the species extends, or what things are comprehended under each term: which, it is evident, are all that have an exact conformity with the idea it stands for, and no other.

But in substances, wherein a real essence distinct from the nominal is supposed to constitute, determine, and bound the species, the extent of the general word is very uncertain: because not knowing this real essence, we cannot know what is, or what is not of that species, and consequently what may, or may not with certainty be affirmed of it. And thus speaking of a man, or gold, or any other species of natural substances, as supposed constituted by a precise and real essence, which nature regularly imparts to every individual of that kind, whereby it is made to be of that species, we cannot be certain of the truth of any affirmation or negation made of it.

For man, or gold, taken in this sense, and used for species of things constituted by real essences, different from the complex idea in the mind of the speaker, stand for we know not what; and the extent of these species, with such boundaries, are so unknown and undetermined, that it is impossible with any certainty to affirm, that all men are rational, or that all gold is yellow.

But where the nominal essence is kept to, as the boundary of each species, and men extend the application of any general term no farther than to the particular things in which the complex idea it stands for is to be found, there they are in no danger to mistake the bounds of each species, nor can be in doubt, on this account, whether any propositions be true or no. I have chosen to explain this uncertainty of propositions in this scholastic way, and have made use of the terms of essences and species, on purpose to show the absurdity and inconvenience there is to think of them as of any other sort of realities than barely abstract ideas with names to them.

To suppose that the species of things are any thing but the sorting of them under general names, according as they agree to several abstract ideas, of which we make those names the signs, is to confound truth, and introduce uncertainty into all general propositions that can be made about them. Though therefore these things might, to

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only essence and boundary the species has or can be supposed to have. So there can be no doubt how far the species extends, or what things are included under each term. Clearly, these are all the things that conform exactly to the idea the term stands for, and no others.

But in substances, a real essence distinct from the nominal one is supposed to constitute, determine, and bound the species, and so the extent of the general word is very uncertain. Since we do not know this real essence, we cannot know what is or is not of that species, and consequently what can or cannot be affirmed of it with certainty. So when we speak of a man, or gold, or any other species of natural substances as constituted by a precise, real essence, we cannot be certain of the truth of any affirmation or denial made about it. By such an essence I mean one that nature regularly imparts to every individual of that kind, and that makes it belong to that species.

Take "man" or "gold" in this sense, used for species of things constituted by real essences different from the complex idea in the speaker's mind: they then stand for we know not what. And the extent of these species, bounded in this way, is so unknown and undetermined that it is impossible to affirm with any certainty that all men are rational, or that all gold is yellow.

But suppose the nominal essence is kept to as the boundary of each species, and people extend a general term only to the particular things in which the complex idea it stands for is found. Then they are in no danger of mistaking the bounds of each species, and cannot be in doubt, on this account, whether any proposition is true or not. I have chosen to explain this uncertainty of propositions in this scholastic way, using the terms "essences" and "species," precisely to show how absurd and troublesome it is to think of them as any kind of reality other than bare abstract ideas with names attached to them.

The species of things are nothing but our sorting of them under general names, according as they agree with various abstract ideas of which we make those names the signs. To suppose they are anything more is to confuse truth and bring uncertainty into every general proposition that can be made about them. For people not steeped in

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people not possessed with scholastic learning, be treated of in a better and clearer way; yet those wrong notions of essences or species, having got root in most people's minds, who have received any tincture from the learning which has prevailed in this part of the world, are to be discovered and removed, to make way for that use of words which should convey certainty with it.

4.6.5 *This more particularly concerns substances.*—The names of substances, then, whenever made to stand for species, which are supposed to be constituted by real essences, which we know not, are not capable to convey certainty to the understanding: of the truth of general propositions made up of such terms, we cannot be sure. The reason whereof is plain: for how can we be sure that this or that quality is in gold, when we know not what is or is not gold?

Since in this way of speaking nothing is gold but what partakes of an essence, which we not knowing, cannot know where it is or is not, and so cannot be sure that any parcel of matter in the world is, or is not in this sense gold; being incurably ignorant, whether it has or has not that which makes any thing to be called gold, *i. e.* that real essence of gold whereof we have no idea at all: this being as impossible for us to know, as it is for a blind man to tell in what flower the colour of a pansy is or is not to be found, whilst he has no idea of the colour of a pansy at all.

Or if we could (which is impossible) certainly know where a real essence, which we know not, is; *v. g.* in what parcels of matter the real essence of gold is; yet could we not be sure, that this or that quality could with truth be affirmed of gold; since it is impossible for us to know, that this or that quality or idea has a necessary connexion with a real essence, of which we have no idea at all, whatever species that supposed real essence may be imagined to constitute.

4.6.6 *The truth of few universal propositions concerning substances is to be known.*—On the other side, the names of substances, when made use of as they should be, for the ideas men have in their minds, though they carry a clear and determinate signification with them, will not yet serve us to make many universal propositions, of whose truth we can be certain. Not because in this use of

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scholastic learning, these things might be treated in a better and clearer way. But those wrong notions of essences or species have taken root in the minds of most people who have absorbed any of the learning that has prevailed in this part of the world. They must therefore be exposed and removed, to make way for a use of words that carries certainty with it.

This concerns substances in particular.—The names of substances, then, whenever they are made to stand for species supposed to be constituted by real essences that we do not know, cannot convey certainty to the understanding. We cannot be sure of the truth of general propositions made up of such terms. The reason is plain. How can we be sure that this or that quality is in gold, when we do not know what is or is not gold?

For in this way of speaking nothing is gold except what shares in a certain essence. Since we do not know that essence, we cannot know where it is or is not. So we cannot be sure that any parcel of matter in the world is, or is not, gold in this sense. We are incurably ignorant whether it has or lacks what makes anything be called gold, that is, the real essence of gold, of which we have no idea at all. This is as impossible for us to know as it is for a blind man to tell in which flower the color of a pansy is or is not to be found, when he has no idea of the color of a pansy at all.

Or suppose we could (which is impossible) know for certain where a real essence we do not know is to be found: for example, in which parcels of matter the real essence of gold is. We still could not be sure that this or that quality could truly be affirmed of gold. For it is impossible for us to know that this or that quality or idea has a necessary connection with a real essence of which we have no idea at all, whatever species that supposed real essence may be imagined to constitute.

The truth of few universal propositions concerning substances can be known.—On the other hand, the names of substances, when used as they should be, for the ideas people have in their minds, carry a clear and determinate meaning. Yet even then they will not let us make many universal propositions whose truth we can be certain of. This is not

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them we are uncertain what things are signified by them, but because the complex ideas they stand for are such combinations of simple ones, as carry not with them any discoverable connexion or repugnancy, but with a very few other ideas.

4.6.7 *Because coexistence of ideas in few cases is to be known.*—The complex ideas, that our names of the species of substances properly stand for, are collections of such qualities as have been observed to coexist in an unknown substratum, which we call substance; but what other qualities necessarily coexist with such combinations we cannot certainly know, unless we can discover their natural dependence; which, in their primary qualities, we can go but a very little way in; and in all their secondary qualities we can discover no connexion at all, for the reasons mentioned, chap. iii.; viz. 1. Because we know not the real constitutions of substances, on which each secondary quality particularly depends. 2.

Did we know that, it would serve us only for experimental (not universal) knowledge; and reach with certainty no farther than that bare instance: because our understandings can discover no conceivable connexion between any secondary quality and any modification whatsoever of any of the primary ones. And therefore there are very few general propositions to be made concerning substances, which can carry with them undoubted certainty.

4.6.8 *Instance in gold.*—All gold is fixed, is a proposition whose truth we cannot be certain of, how universally soever it be believed. For if, according to the useless imagination of the schools, any one supposes the term gold to stand for a species of things, set out by nature, by a real essence belonging to it, it is evident he knows not what particular substances are of that species; and so cannot, with certainty, affirm any thing universally of gold.

But if he makes gold stand for a species determined by its nominal essence, let the nominal essence, for example, be the complex idea of a body, of a certain yellow colour, malleable, fusible, and heavier than any other known; in this proper use of the word gold, there is no difficulty to know what is or is not gold. But

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because, used this way, we are uncertain what things they signify. It is because the complex ideas they stand for are combinations of simple ones that carry no discoverable connection or incompatibility with any but a very few other ideas.

Because the coexistence of ideas can be known in few cases.—The complex ideas that our names for the species of substances properly stand for are collections of qualities that have been observed to coexist in an unknown substratum, which we call substance. But we cannot know for certain what other qualities necessarily coexist with such combinations, unless we can discover their natural dependence. In their primary qualities we can go only a very little way in this. In all their secondary qualities we can discover no connection at all, for the reasons given in Chapter 3, namely: 1. Because we do not know the real constitutions of substances, on which each secondary quality particularly depends. 2.

If we did know that, it would give us only experimental (not universal) knowledge, and would reach with certainty no further than that bare instance. For our understandings can discover no conceivable connection between any secondary quality and any modification whatever of any of the primary ones. And so there are very few general propositions to be made about substances that can carry undoubted certainty with them.

The example of gold.—"All gold is fixed" is a proposition whose truth we cannot be certain of, however universally it is believed. Suppose someone follows the useless fancy of the schools and takes the term "gold" to stand for a species of things marked out by nature through a real essence belonging to it. Then it is evident that he does not know which particular substances are of that species, and so cannot affirm anything universally of gold with certainty.

But he may instead make "gold" stand for a species determined by its nominal essence. Let the nominal essence be, for example, the complex idea of a body of a certain yellow color, malleable, fusible, and heavier than any other known. In this proper use of the word "gold," there is no difficulty in knowing what is or is not gold. Still, no other qual-

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yet no other quality can with certainty be universally affirmed or denied of gold, but what hath a discoverable connexion or inconsistency with that nominal essence.

Fixedness, for example, having no necessary connexion, that we can discover, with the colour, weight, or any other simple idea of our complex one, or with the whole combination together; it is impossible that we should certainly know the truth of this proposition, that all gold is fixed.

4.6.9 As there is no discoverable connexion between fixedness and the colour, weight, and other simple ideas of that nominal essence of gold; so if we make our complex idea of gold a body yellow, fusible, ductile, weighty, and fixed, we shall be at the same uncertainty concerning solubility in aqua regia, and for the same reason: since we can never, from consideration of the ideas themselves, with certainty affirm or deny of a body, whose complex idea is made up of yellow, very weighty, ductile, fusible, and fixed, that it is soluble in aqua regia; and so on, of the rest of its qualities. I would gladly meet with one general affirmation concerning any quality of gold, that any one can certainly know is true.

It will, no doubt, be presently objected, is not this a universal proposition, "all gold is malleable?" To which I answer, it is a very certain proposition, if malleableness be a part of the complex idea the word gold stands for. But then here is nothing affirmed of gold, but that that sound stands for an idea in which malleableness is contained: and such a sort of truth and certainty as this, it is to say a centaur is four-footed. But if malleableness makes not a part of the specific essence the name of gold stands for, it is plain, "all gold is malleable" is not a certain proposition.

Because let the complex idea of gold be made up of whichsoever of its other qualities you please, malleableness will not appear to depend on that complex idea, nor follow from any simple one contained in it: the connexion that malleableness has (if it has any) with those other qualities, being only by the intervention of the real constitution of its insensible parts, which, since we know not, it is impossible we should perceive that connexion, unless we could discover that which ties them together.

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ity can be affirmed or denied of gold universally and with certainty, except one that has a discoverable connection or inconsistency with that nominal essence.

Fixedness, for example, has no necessary connection that we can discover with the color, weight, or any other simple idea in our complex one, or with the whole combination together. So it is impossible for us to know for certain the truth of this proposition: that all gold is fixed.

There is no discoverable connection between fixedness and the color, weight, and other simple ideas of that nominal essence of gold. In the same way, if we make our complex idea of gold a body that is yellow, fusible, ductile, heavy, and fixed, we shall be just as uncertain about its solubility in aqua regia, and for the same reason. For we can never, from considering the ideas themselves, affirm or deny with certainty that such a body is soluble in aqua regia, when its complex idea is made up of yellow, very heavy, ductile, fusible, and fixed. The same goes for the rest of its qualities. I would be glad to meet with one general affirmation about any quality of gold that anyone can know for certain to be true.

No doubt it will immediately be objected: is not “all gold is malleable” a universal proposition? I answer that it is a very certain proposition, if malleability is part of the complex idea the word “gold” stands for. But then nothing is affirmed of gold here except that that sound stands for an idea in which malleability is contained. Truth and certainty of this sort are like saying that a centaur is four-footed. But if malleability is not part of the specific essence the name “gold” stands for, then clearly “all gold is malleable” is not a certain proposition.

For let the complex idea of gold be made up of whichever of its other qualities you please: malleability will not appear to depend on that complex idea, or to follow from any simple idea contained in it. Malleability’s connection with those other qualities (if it has any) comes only through the real constitution of its insensible parts. Since we do not know that constitution, we cannot possibly perceive the connection unless we could discover what ties them together.

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4.6.10 *As far as any such coexistence can be known, so far universal propositions may be certain. But this will go but a little way, because*—The more, indeed, of these coexisting qualities we unite into one complex idea, under one name, the more precise and determinate we make the signification of that word; but never yet make it thereby more capable of universal certainty, in respect of other qualities, not contained in our complex idea; since we perceive not their connexion or dependence on one another, being ignorant both of that real constitution in which they are all founded, and also how they flow from it.

For the chief part of our knowledge concerning substances is not, as in other things, barely of the relation of two ideas that may exist separately; but is of the necessary connexion and coexistence of several distinct ideas in the same subject, or of their repugnancy so to coexist.

Could we begin at the other end, and discover what it was, wherein that colour consisted, what made a body lighter or heavier, what texture of parts made it malleable, fusible, and fixed, and fit to be dissolved in this sort of liquor, and not in another; if, I say, we had such an idea as this of bodies, and could perceive wherein all sensible qualities originally consist, and how they are produced; we might frame such ideas of them as would furnish us with matter of more general knowledge, and enable us to make universal propositions, that should carry general truth and certainty with them.

But whilst our complex ideas of the sorts of substances are so remote from that internal real constitution, on which their sensible qualities depend, and are made up of nothing but an imperfect collection of those apparent qualities our senses can discover; there can be few general propositions concerning substances, of whose real truth we can be certainly assured; since there are but few simple ideas, of whose connexion and necessary coexistence we can have certain and undoubted knowledge.

I imagine, among all the secondary qualities of substances, and the powers relating to them, there cannot any two be named, whose necessary coexistence, or repugnance to coexist, can certainly be known, unless in those of the same sense, which necessarily exclude one another, as I

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As far as any such coexistence can be known, universal propositions may be certain. But this goes only a little way, because—The more of these coexisting qualities we unite into one complex idea under one name, the more precise and determinate we do make the meaning of that word. But we never thereby make it more capable of universal certainty with respect to other qualities not contained in our complex idea. For we do not perceive their connection with, or dependence on, one another. We are ignorant both of the real constitution in which they are all grounded and of how they flow from it.

For the chief part of our knowledge about substances is not, as in other things, simply about the relation of two ideas that may exist separately. It is about the necessary connection and coexistence of several distinct ideas in the same subject, or about their incompatibility in coexisting.

Suppose we could begin at the other end. We would discover what that color consisted in, what made a body lighter or heavier, and what texture of parts made it malleable, fusible, and fixed, and fit to be dissolved in this sort of liquid and not in another. If, I say, we had an idea of bodies like this, and could perceive what all sensible qualities originally consist in and how they are produced, we might form ideas of them that would supply us with material for more general knowledge. They would enable us to make universal propositions carrying general truth and certainty with them.

But our complex ideas of the sorts of substances are very remote from the internal real constitution on which their sensible qualities depend. They are made up of nothing but an imperfect collection of the apparent qualities our senses can discover. As long as this is so, there can be few general propositions about substances whose real truth we can be assured of for certain. For there are only a few simple ideas of whose connection and necessary coexistence we can have certain and undoubted knowledge.

Take all the secondary qualities of substances, and the powers relating to them. I imagine that no two of them can be named whose necessary coexistence, or incompatibility in coexisting, can be known for certain. The only exception is qualities

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have elsewhere shown. No one, I think, by the colour that is in any body, can certainly know what smell, taste, sound, or tangible qualities it has, nor what alterations it is capable to make or receive, on or from other bodies. The same may be said of the sound or taste, &c.

Our specific names of substances standing for any collections of such ideas, it is not to be wondered, that we can with them make very few general propositions of undoubted real certainty. But yet, so far as any complex idea, of any sort of substances, contains in it any simple idea, whose necessary coexistence with any other may be discovered, so far universal propositions may with certainty be made concerning it: v.

g. could any one discover a necessary connexion between malleableness, and the colour or weight of gold, or any other part of the complex idea signified by that name, he might make a certain universal proposition concerning gold in this respect; and the real truth of this proposition, "that all gold is malleable," would be as certain as of this, "the three angles of all right-lined triangles are equal to two right ones."

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of the same sense, which necessarily exclude one another, as I have shown elsewhere. No one, I think, can know for certain from the color of a body what smell, taste, sound, or tangible qualities it has, or what alterations it can make in other bodies or receive from them. The same may be said of sound or taste, and so on.

Our specific names of substances stand for collections of such ideas, so it is no wonder that we can make very few general propositions with them that have undoubted real certainty. Still, a complex idea of some sort of substance may contain a simple idea whose necessary coexistence with some other can be discovered. So far as it does, universal propositions can be made about it with certainty. For example,

suppose someone could discover a necessary connection between malleability and the color or weight of gold, or any other part of the complex idea signified by that name. He could then make a certain universal proposition about gold in this respect. The real truth of the proposition "all gold is malleable" would be as certain as that of "the three angles of every rectilinear triangle are equal to two right angles."

THINGS DEPEND ON THEIR SURROUNDINGS

The qualities of bodies depend on unseen outside causes, perhaps even on the remotest stars.

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4.6.11 *The qualities which make our complex ideas of substances, depend mostly on external, remote, and unperceived causes.*—Had we such ideas of substances, as to know what real constitutions produce those sensible qualities we find in them, and how those qualities flowed from thence, we could, by the specific ideas of their real essences in our own minds, more certainly find out their properties, and discover what qualities they had or had not, than we can now by our senses: and to know the properties of gold, it would be no more necessary that gold should exist, and that we should make experiments upon it, than it is necessary for the knowing the properties of a triangle, that a triangle should exist in any matter; the idea in our minds would serve for the one as well as the other.

But we are so far from being admitted into the secrets of nature, that we scarce so much as ever

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The qualities that make up our complex ideas of substances depend mostly on external, remote, and unperceived causes.—Suppose our ideas of substances showed us what real constitutions produce the sensible qualities we find in them, and how those qualities flow from them. Then we could find out their properties, and discover what qualities they had or lacked, more certainly by the specific ideas of their real essences in our own minds than we now can by our senses. To know the properties of gold, it would then be no more necessary that gold should exist, and that we should experiment on it, than it is necessary for a triangle to exist in any matter in order for us to know the properties of a triangle. The idea in our minds would serve for the one as well as for the other.

But we are so far from being admitted into the secrets of nature that we hardly ever so much as

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approach the first entrance toward them. For we are wont to consider the substances we meet with, each of them as an entire thing by itself, having all its qualities in itself, and independent of other things; overlooking, for the most part, the operations of those invisible fluids they are encompassed with, and upon whose motions and operations depend the greatest part of those qualities which are taken notice of in them, and are made by us the inherent marks of distinction, whereby we know and denominate them.

Put a piece of gold any where by itself, separate from the reach and influence of all other bodies, it will immediately lose all its colour and weight, and perhaps malleableness too; which, for aught I know, would be changed into a perfect friability. Water, in which to us fluidity is an essential quality, left to itself, would cease to be fluid. But if inanimate bodies owe so much of their present state to other bodies without them, that they would not be what they appear to us, were those bodies that environ them removed; it is yet more so in vegetables, which are nourished, grow, and produce leaves, flowers, and seeds in a constant succession.

And if we look a little nearer into the state of animals, we shall find that their dependence, as to life, motion, and the most considerable qualities to be observed in them, is so wholly on extrinsical causes and qualities of other bodies that make no part of them, that they cannot subsist a moment without them: though yet those bodies on which they depend are little taken notice of, and make no part of the complex ideas we frame of those animals. Take the air but for a minute from the greatest part of living creatures, and they presently lose sense, life, and motion. This the necessity of breathing has forced into our knowledge.

But how many other extrinsical, and possibly very remote bodies, do the springs of these admirable machines depend on, which are not vulgarly observed, or so much as thought on; and how many are there, which the severest inquiry can never discover!

The inhabitants of this spot of the universe, though removed so many millions of miles from the sun, yet depend so much on the duly tempered motion of particles coming from, or

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approach the first entrance to them. We usually consider each of the substances we meet with as an entire thing by itself, having all its qualities in itself and independent of other things. For the most part we overlook the operations of the invisible fluids that surround them. Yet most of the qualities we notice in them depend on the motions and operations of those fluids, and these are the very qualities we treat as their inherent marks of distinction, by which we know and name them.

Put a piece of gold anywhere by itself, separated from the reach and influence of all other bodies, and it will immediately lose all its color and weight. It might lose its malleability too, which, for all I know, would change into complete brittleness. Water, for which fluidity is to us an essential quality, would cease to be fluid if left to itself. Inanimate bodies, then, owe so much of their present state to other bodies outside them that they would not be what they appear to us if the bodies surrounding them were removed. If that is so, it is even more true of plants, which are nourished, grow, and produce leaves, flowers, and seeds in a constant succession.

And if we look a little more closely at the state of animals, we shall find that for life, motion, and the most considerable qualities to be observed in them, they depend wholly on external causes, and on qualities of other bodies that are no part of them. They depend on these so completely that they cannot survive a moment without them. Yet the bodies they depend on are little noticed, and form no part of the complex ideas we frame of those animals. Take away the air for even a minute from most living creatures, and they immediately lose sense, life, and motion. The need to breathe has forced this into our knowledge.

But on how many other external, and possibly very remote, bodies do the springs of these admirable machines depend, which are not commonly observed or even thought of! And how many are there that the most rigorous inquiry can never discover!

The inhabitants of this spot of the universe are so many millions of miles away from the sun. Yet they depend so much on the properly tempered motion of particles coming from it, or set in mo-

agitated by it, that were this earth removed but a small part of that distance out of its present situation, and placed a little farther or nearer that source of heat, it is more than probable that the greatest part of the animals in it would immediately perish: since we find them so often destroyed by an excess or defect of the sun's warmth, which an accidental position, in some parts of this our little globe exposes them to.

The qualities observed in a loadstone must needs have their source far beyond the confines of that body; and the ravage made often on several sorts of animals by invisible causes, the certain death (as we are told) of some of them, by barely passing the line, or, as it is certain of others, by being removed into a neighbouring country; evidently show that the concurrence and operations of several bodies, with which they are seldom thought to have any thing to do, is absolutely necessary to make them be what they appear to us, and to preserve those qualities by which we know and distinguish them.

We are then quite out of the way, when we think that things contain within themselves the qualities that appear to us in them; and we in vain search for that constitution within the body of a fly, or an elephant, upon which depend those qualities and powers we observe in them. For which, perhaps, to understand them aright, we ought to look not only beyond this our earth and atmosphere, but even beyond the sun, or remotest star our eyes have yet discovered. For how much the being and operation of particular substances in this our globe depends on causes utterly beyond our view, is impossible for us to determine.

We see and perceive some of the motions and grosser operations of things here about us; but whence the streams come that keep all these curious machines in motion and repair, how conveyed and modified, is beyond our notice and apprehension: and the great parts and wheels, as I may so say, of this stupendous structure of the universe, may, for aught we know, have such a connexion and dependence in their influence and operations one upon another, that perhaps things in this our mansion would put on quite another face, and cease to be what they are, if some one of the stars or great bodies, incomprehensibly

tion by it, that even a small change would be fatal. If this earth were moved even a small part of that distance from its present position, and placed a little farther from or nearer to that source of heat, it is more than probable that most of the animals on it would immediately perish. For we find them so often destroyed by too much or too little of the sun’s warmth, to which an accidental position exposes them in some parts of this little globe of ours.

The qualities observed in a lodestone must have their source far beyond the bounds of that body. Invisible causes often wreak havoc on various kinds of animals. Some of them (so we are told) die for certain merely from crossing the equator, and it is certain that others die from being moved into a neighboring country. All this clearly shows that the concurrence and operations of various bodies are absolutely necessary to make these animals what they appear to us, and to preserve the qualities by which we know and distinguish them, although they are seldom thought to have anything to do with those bodies.

We are quite off the track, then, when we think that things contain within themselves the qualities that appear to us in them. We search in vain within the body of a fly or an elephant for the constitution on which the qualities and powers we observe in them depend. To understand those qualities rightly, we may perhaps need to look not only beyond this earth and atmosphere of ours, but even beyond the sun, or the most remote star our eyes have yet discovered. For it is impossible for us to determine how far the being and operation of particular substances on this globe of ours depend on causes wholly beyond our view.

We see and perceive some of the motions and grosser operations of things around us here. But we cannot notice or comprehend where the streams come from that keep all these intricate machines in motion and repair, or how they are conveyed and modified. The great parts and wheels, so to speak, of this stupendous structure of the universe may, for all we know, be closely connected and dependent on one another in their influence and operations. Suppose one of the stars or great bodies, incomprehensibly remote from us, were to cease to exist or to move as it does.

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remote from us, should cease to be or move as it does.

This is certain, things, however absolute and entire they seem in themselves, are but retainers to other parts of nature, for that which they are most taken notice of by us. Their observable qualities, actions, and powers, are owing to something without them; and there is not so complete and perfect a part that we know of nature, which does not owe the being it has, and the excellencies of it, to its neighbours; and we must not confine our thoughts within the surface of any body, but look a great deal farther, to comprehend perfectly those qualities that are in it.

4.6.12 If this be so, it is not to be wondered, that we have very imperfect ideas of substances; and that the real essences, on which depend their properties and operations, are unknown to us. We cannot discover so much as that size, figure, and texture of their minute and active parts, which is really in them; much less the different motions and impulses made in and upon them by bodies from without, upon which depends, and by which is formed, the greatest and most remarkable part of those qualities we observe in them, and of which our complex ideas of them are made up.

This consideration alone is enough to put an end to all our hopes of ever having the ideas of their real essences; which, whilst we want, the nominal essences we make use of instead of them will be able to furnish us but very sparingly with any general knowledge, or universal propositions capable of real certainty.

4.6.13 *Judgment may reach farther, but that is not knowledge.*—We are not therefore to wonder, if certainty be to be found in very few general propositions made concerning substances: our knowledge of their qualities and properties goes very seldom farther than our senses reach and inform us. Possibly inquisitive and observing men may, by strength of judgment, penetrate farther, and on probabilities taken from wary observation, and hints well laid together, often guess right at what experience has not yet discovered to them. But this is but guessing still; it amounts only to opinion, and has not that certainty which is requisite to knowledge. For all

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Things in this dwelling of ours might then take on quite another appearance, and cease to be what they are.

This much is certain: things, however self-contained and complete they seem in themselves, are only dependents of other parts of nature for the very features we chiefly notice in them. They owe their observable qualities, actions, and powers to something outside them. There is no part of nature we know of so complete and perfect that it does not owe its being, and its excellences, to its neighbors. We must not confine our thoughts within the surface of any body, but look a great deal farther, if we are to understand perfectly the qualities that are in it.

If this is so, it is no wonder that we have very imperfect ideas of substances, and that the real essences on which their properties and operations depend are unknown to us. We cannot discover even the size, shape, and texture of their minute and active parts, which are really in them. Still less can we discover the different motions and impulses made in and on them by bodies from outside. Yet on these depends, and by these is formed, the greatest and most remarkable part of the qualities we observe in them, of which our complex ideas of them are made up.

This consideration alone is enough to end all our hopes of ever having ideas of their real essences. And as long as we lack these, the nominal essences we use in their place will supply us only very sparingly with general knowledge, or with universal propositions capable of real certainty.

Judgment may reach farther, but that is not knowledge.—So we should not be surprised if certainty is found in very few general propositions about substances. Our knowledge of their qualities and properties very seldom goes further than our senses reach and inform us. Perhaps inquisitive and observant people may penetrate further by strength of judgment. Working on probabilities drawn from careful observation and hints well put together, they may often guess right at what experience has not yet revealed to them. But this is still only guessing. It amounts only to opinion, and lacks the certainty required for knowledge. For all

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general knowledge lies only in our own thoughts, and consists barely in the contemplation of our own abstract ideas.

Wherever we perceive any agreement or disagreement among them, there we have general knowledge; and, by putting the names of those ideas together accordingly in propositions, can with certainty pronounce general truths. But because the abstract ideas of substances, for which their specific names stand, whenever they have any distinct and determinate signification, have a discoverable connexion or inconsistency with but a very few other ideas; the certainty of universal propositions concerning substances is very narrow and scanty in that part, which is our principal inquiry concerning them; and there are scarce any of the names of substances, let the idea it is applied to be what it will, of which we can generally and with certainty pronounce, that it has or has not this or that other quality belonging to it, and constantly coexisting or inconsistent with that idea, whereever it is to be found.

4.6.14 *What is requisite for our knowledge of substances.*—Before we can have any tolerable knowledge of this kind, we must first know what changes the primary qualities of one body do regularly produce in the primary qualities of another, and how. Secondly, we must know what primary qualities of any body produce certain sensations or ideas in us. This is in truth no less than to know all the effects of matter, under its divers modifications of bulk, figure, cohesion of parts, motion, and rest. Which, I think, every body will allow, is utterly impossible to be known by us without revelation.

Nor if it were revealed to us, what sort of figure, bulk, and motion of corpuscles, would produce in us the sensation of a yellow colour, and what sort of figure, bulk, and texture of parts, in the superficies of any body, were fit to give such corpuscles their due motion to produce that colour; would that be enough to make universal propositions with certainty, concerning the several sorts of them, unless we had faculties acute enough to perceive the precise bulk, figure, texture and motion of bodies in those minute parts, by which they operate on our senses, so that we might by those frame our abstract ideas of them.

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general knowledge lies only in our own thoughts, and consists simply in the contemplation of our own abstract ideas.

Wherever we perceive any agreement or disagreement among them, there we have general knowledge. By putting the names of those ideas together accordingly in propositions, we can pronounce general truths with certainty. But the abstract ideas of substances, for which their specific names stand, have a discoverable connection or inconsistency with only a very few other ideas, whenever they have any distinct and determinate meaning. So the certainty of universal propositions about substances is very narrow and scanty in the part that is our principal inquiry concerning them. There is hardly a single name of a substance, whatever idea it is applied to, of which we can pronounce generally and with certainty that it has or lacks some other quality belonging to it. By such a quality I mean one that constantly coexists with that idea, or is inconsistent with it, wherever it is found.

What our knowledge of substances would require.—Before we can have any tolerable knowledge of this kind, we must first know what changes the primary qualities of one body regularly produce in the primary qualities of another, and how. Second, we must know which primary qualities of any body produce certain sensations or ideas in us. This is in truth nothing less than knowing all the effects of matter under its various modifications of bulk, shape, cohesion of parts, motion, and rest. I think everyone will agree that this is utterly impossible for us to know without revelation.

Suppose it were revealed to us what sort of shape, bulk, and motion of corpuscles would produce in us the sensation of a yellow color. Suppose it were also revealed what sort of shape, bulk, and texture of parts in the surface of a body were fit to give such corpuscles the right motion to produce that color. That would still not be enough to let us make universal propositions with certainty about the various sorts of bodies. For that we would also need faculties sharp enough to perceive the precise bulk, shape, texture, and motion of bodies in the minute parts by which they act on our senses,

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I have mentioned here only corporeal substances, whose operations seem to lie more level to our understandings: for as to the operations of spirits, both their thinking and moving of bodies, we at first sight find ourselves at a loss; though, perhaps, when we have applied our thoughts a little nearer to the consideration of bodies and their operations, and examined how far our notions, even in these, reach, with any clearness, beyond sensible matter of fact, we shall be bound to confess, that even in these too our discoveries amount to very little beyond perfect ignorance and incapacity.

4.6.15 *Whilst our ideas of substances contain not their real constitutions, we can make but few general certain propositions concerning them.*—This is evident, the abstract complex ideas of substances, for which their general names stand, not comprehending their real constitutions, can afford us very little universal certainty. Because our ideas of them are not made up of that, on which those qualities we observe in them, and would inform ourselves about, do depend, or with which they have any certain connexion. *v. g.* let the ideas to which we give the name man be, as it commonly is, a body of the ordinary shape, with sense, voluntary motion, and reason joined to it.

This being the abstract idea, and consequently the essence of our species man, we can make but very few general certain propositions concerning man, standing for such an idea. Because not knowing the real constitution on which sensation, power of motion, and reasoning, with that peculiar shape, depend, and whereby they are united together in the same subject, there are very few other qualities with which we can perceive them to have a necessary connexion: and therefore we cannot with certainty affirm, that all men sleep by intervals; that no man can be nourished by wood or stones; that all men will be poisoned by hemlock; because these ideas have no connexion or repugnancy with this our nominal essence of man, with this abstract idea that name stands for.

We must in these and the like appeal to trial in particular subjects, which can reach but a little

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so that we could form our abstract ideas of them from those.

I have mentioned only corporeal substances here, since their operations seem more within the reach of our understandings. As for the operations of spirits, both their thinking and their moving of bodies, we find ourselves at a loss at first sight. Yet perhaps we will apply our thoughts a little more closely to bodies and their operations, and examine how far our notions even of these reach with any clearness beyond sensible matter of fact. When we do, we shall have to admit that even here our discoveries amount to very little beyond complete ignorance and incapacity.

As long as our ideas of substances do not contain their real constitutions, we can make only a few general certain propositions about them.—This much is evident: the abstract complex ideas of substances, for which their general names stand, do not include their real constitutions, and so can give us very little universal certainty. We observe certain qualities in substances and want to learn about them. But our ideas of substances are not made up of what those qualities depend on, or of anything with which those qualities have a certain connection. For example, let the idea to which we give the name "man" be, as it commonly is, a body of the ordinary shape, with sense, voluntary motion, and reason joined to it.

This is the abstract idea, and consequently the essence, of our species man. Taking "man" to stand for such an idea, we can make only very few general certain propositions about man. For we do not know the real constitution on which sensation, the power of motion, and reasoning, together with that particular shape, depend, and by which they are united in the same subject. So there are very few other qualities with which we can perceive them to have a necessary connection. We therefore cannot affirm with certainty that all men sleep at intervals; that no man can be nourished by wood or stones; that all men will be poisoned by hemlock. For these ideas have no connection or incompatibility with this nominal essence of man of ours, the abstract idea that the name stands for.

In these and similar cases we must appeal to trial in particular subjects, which can take us only a

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way. We must content ourselves with probability in the rest; but can have no general certainty, whilst our specific idea of man contains not that real constitution, which is the root, wherein all his inseparable qualities are united, and from whence they flow. Whilst our idea, the word man stands for, is only an imperfect collection of some sensible qualities and powers in him, there is no discernible connexion or repugnance between our specific idea and the operation of either the parts of hemlock or stones upon his constitution.

There are animals that safely eat hemlock, and others that are nourished by wood and stones: but as long as we want ideas of those real constitutions of different sorts of animals, whereon these and the like qualities and powers depend, we must not hope to reach certainty in universal propositions concerning them. Those few ideas only, which have a discernible connexion with our nominal essence, or any part of it, can afford us such propositions. But these are so few, and of so little moment, that we may justly look on our certain general knowledge of substances as almost none at all.

4.6.16 *Wherein lies the general certainty of propositions.*—To conclude; general propositions, of what kind soever, are then only capable of certainty, when the terms used in them stand for such ideas, whose agreement or disagreement, as there expressed, is capable to be discovered by us. And we are then certain of their truth or falsehood, when we perceive the ideas the terms stand for to agree or not agree, according as they are affirmed or denied one of another. Whence we may take notice, that general certainty is never to be found but in our ideas. Whenever we go to seek it elsewhere in experiment, or observations without us, our knowledge goes not beyond particulars.

It is the contemplation of our own abstract ideas that alone is able to afford us general knowledge.

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little way. For the rest we must content ourselves with probability. We can have no general certainty as long as our specific idea of man does not contain the real constitution that is the root in which all his inseparable qualities are united and from which they flow. The idea the word "man" stands for is only an imperfect collection of some sensible qualities and powers in him. As long as that is so, there is no discernible connection or incompatibility between our specific idea and the action of the parts of either hemlock or stones on his constitution.

There are animals that eat hemlock safely, and others that are nourished by wood and stones. But as long as we lack ideas of the real constitutions of the different sorts of animals, on which these and similar qualities and powers depend, we must not hope to reach certainty in universal propositions about them. Only those few ideas that have a discernible connection with our nominal essence, or some part of it, can give us such propositions. But these are so few, and of so little importance, that we may fairly regard our certain general knowledge of substances as almost nothing at all.

Where the general certainty of propositions lies.—To conclude: general propositions of whatever kind are capable of certainty only when their terms stand for ideas whose agreement or disagreement, as expressed there, we are able to discover. And we are certain of their truth or falsehood when we perceive the ideas the terms stand for to agree or not agree, according as they are affirmed or denied of one another. From this we may note that general certainty is never to be found except in our ideas. Whenever we go looking for it elsewhere, in experiment or observations outside us, our knowledge does not go beyond particulars.

It is the contemplation of our own abstract ideas alone that can give us general knowledge.

MAXIMS

Self-evident maxims are neither the first truths known nor the foundations of other knowledge.

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4.7.1 *They are self-evident.*—There are a sort of propositions, which under the name of maxims and axioms have passed for principles of science;

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They are self-evident.—There is a sort of proposition that has passed for the principles of science under the name of maxims and axioms. Because these

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and because they are self-evident, have been supposed innate, although nobody (that I know) ever went about to show the reason and foundation of their clearness or cogency. It may, however, be worth while to inquire into the reason of their evidence, and see whether it be peculiar to them alone, and also examine how far they influence and govern our other knowledge.

4.7.2 *Wherein that self-evidence consists.*—Knowledge, as has been shown, consists in the perception of the agreement or disagreement of ideas: now where that agreement or disagreement is perceived immediately by itself, without the intervention or help of any other, there our knowledge is self-evident. This will appear to be so to any one, who will but consider any of those propositions, which, without any proof, he assents to at first sight: for in all of them he will find, that the reason of his assent is from that agreement or disagreement, which the mind, by an immediate comparing them, finds in those ideas answering the affirmation or negation in the proposition.

4.7.3 *Self-evidence not peculiar to received axioms.*—This being so, in the next place let us consider, whether this self-evidence be peculiar only to those propositions which commonly pass under the name of maxims, and have the dignity of axioms allowed them. And here it is plain, that several other truths, not allowed to be axioms, partake equally with them in this self-evidence. This we shall see, if we go over these several sorts of agreement or disagreement of ideas, which I have above mentioned, viz. identity, relation, coexistence, and real existence; which will discover to us, that not only those few propositions, which have had the credit of maxims, are self-evident, but a great many, even almost an infinite number of other propositions are such.

4.7.4 1. *As to identity and diversity, all propositions are equally self-evident.*—For, first, the immediate perception of the agreement or disagreement of identity, being founded in the mind's having distinct ideas, this affords us as many self-evident propositions as we have distinct ideas. Every one, that has any knowledge at all, has, as the foundation of it, various and distinct ideas: and it is the first act of the mind (without which it can

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propositions are self-evident, they have been supposed innate, although nobody (that I know of) has ever set about showing the reason and foundation of their clearness or force. It may nevertheless be worthwhile to inquire into the reason for their evidence, and see whether it is peculiar to them alone. It is also worth examining how far they influence and govern the rest of our knowledge.

What that self-evidence consists in.—Knowledge, as has been shown, consists in the perception of the agreement or disagreement of ideas. Now where that agreement or disagreement is perceived immediately, by itself, without the intervention or help of any other idea, there our knowledge is self-evident. This will be clear to anyone who considers any of the propositions he assents to at first sight, without any proof. In all of them the mind compares the ideas directly, and finds in them the agreement or disagreement that corresponds to the affirmation or denial in the proposition. He will find that this is the reason for his assent.

Self-evidence is not peculiar to received axioms.—This being so, let us next consider whether this self-evidence belongs only to the propositions that commonly go by the name of maxims and are granted the dignity of axioms. Here it is plain that several other truths, not granted the status of axioms, share this self-evidence equally with them. We shall see this if we go over the several sorts of agreement or disagreement of ideas I mentioned above, namely identity, relation, coexistence, and real existence. They will show us that not only the few propositions that have enjoyed the credit of maxims are self-evident. A great many other propositions are too, indeed an almost infinite number.

1. *As to identity and diversity, all propositions are equally self-evident.*—First, the immediate perception of the agreement or disagreement of identity is grounded in the mind's having distinct ideas. So it gives us as many self-evident propositions as we have distinct ideas. Everyone who has any knowledge at all has various distinct ideas as its foundation. And it is the first act of the mind to know

never be capable of any knowledge) to know every one of its ideas by itself, and distinguish it from others.

Every one finds in himself, that he knows the ideas he has; that he knows also when any one is in his understanding, and what it is; and that when more than one are there, he knows them distinctly and unconfusedly one from another. Which always being so (it being impossible but that he should perceive what he perceives) he can never be in doubt when any idea is in his mind, that it is there, and is that idea it is; and that two distinct ideas, when they are in his mind, are there, and are not one and the same idea.

So that all such affirmations and negations are made without any possibility of doubt, uncertainty, or hesitation, and must necessarily be assented to as soon as understood; that is, as soon as we have in our minds determined ideas, which the terms in the proposition stand for. And therefore whenever the mind with attention considers any proposition, so as to perceive the two ideas signified by the terms, and affirmed or denied one of the other, to be the same or different; it is presently and infallibly certain of the truth of such a proposition; and this equally, whether these propositions be in terms standing for more general ideas, or such as are less so, v.

g. whether the general idea of being be affirmed of itself, as in this proposition, whatsoever is, is; or a more particular idea be affirmed of itself, as a man is a man; or, whatsoever is white is white; or whether the idea of being in general be denied of not being, which is the only, (if I may so call it) idea different from it, as in this other proposition, it is impossible for the same thing to be, and not to be; or any idea of any particular being be denied of another different from it, as, a man is not a horse; red is not blue.

The difference of the ideas, as soon as the terms are understood, makes the truth of the proposition presently visible, and that with an equal certainty and easiness in the less as well as the more general propositions, and all for the same reason, viz. because the mind perceives, in any ideas that it has, the same ideas to be the same with itself; and two different ideas to be different, and not the same. And this it is equally

each of its ideas by itself and distinguish it from the others. Without this act the mind could never be capable of any knowledge.

Everyone finds in himself that he knows the ideas he has. He also knows when any one of them is in his understanding, and what it is. And when more than one are there, he knows them distinctly and without confusing one with another. This is always so, since it is impossible for him not to perceive what he perceives. So he can never be in doubt, when any idea is in his mind, that it is there and is the idea it is. Nor can he doubt that two distinct ideas, when they are in his mind, are there and are not one and the same idea.

So all such affirmations and denials are made without any possibility of doubt, uncertainty, or hesitation. They must necessarily be assented to as soon as they are understood, that is, as soon as we have in our minds determinate ideas for the terms in the proposition to stand for. Therefore, suppose the mind attentively considers a proposition and perceives that the two ideas signified by its terms, and affirmed or denied of each other, are the same or different. It is then immediately and infallibly certain of the truth of that proposition. This holds equally whether the terms stand for more general ideas or for less general ones. For example,

the general idea of being may be affirmed of itself, as in the proposition "whatever is, is." Or a more particular idea may be affirmed of itself, as in "a man is a man," or "whatever is white is white." Or the idea of being in general may be denied of not-being, which is the only idea (if I may call it that) different from it, as in this other proposition, "it is impossible for the same thing to be and not to be." Or the idea of some particular being may be denied of another different from it, as in "a man is not a horse," "red is not blue."

As soon as the terms are understood, the difference of the ideas makes the truth of the proposition immediately visible. It does so with equal certainty and ease in the less general propositions as in the more general ones, and all for the same reason. Namely, the mind perceives, in any ideas it has, that the same idea is the same as itself, and that two different ideas are different and not the same. And it is equally certain of this whether the

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certain of, whether these ideas be more or less general, abstract, and comprehensive.

It is not therefore alone to these two general propositions, whatsoever is, is; and it is impossible for the same thing to be, and not to be; that this sort of self-evidence belongs by any peculiar right. The perception of being, or not being, belongs no more to these vague ideas, signified by the terms whatsoever and thing, than it does to any other ideas.

These two general maxims, amounting to no more in short but this, that the same is the same, and same is not different, are truths known in more particular instances, as well as in these general maxims, and known also in particular instances, before these general maxims are ever thought on, and draw all their force from the discernment of the mind employed about particular ideas.

There is nothing more visible than that the mind, without the help of any proof, or reflection on either of these general propositions, perceives so clearly, and knows so certainly, that the idea of white is the idea of white, and not the idea of blue; and that the idea of white, when it is in the mind, is there, and is not absent; that the consideration of these axioms can add nothing to the evidence or certainty of its knowledge.

Just so it is (as every one may experiment in himself) in all the ideas a man has in his mind: he knows each to be itself, and not to be another; and to be in his mind, and not away when it is there, with a certainty that cannot be greater; and therefore the truth of no general proposition can be known with a greater certainty, nor add any thing to this. So that in respect of identity, our intuitive knowledge reaches as far as our ideas; and we are capable of making as many self-evident propositions as we have names for distinct ideas.

And I appeal to every one's own mind, whether this proposition, a circle is a circle, be not as self-evident a proposition, as that consisting of more general terms, whatsoever is, is? and again, whether this proposition, blue is not red, be not a proposition that the mind can no more doubt of, as soon as it understands the words, than it does

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ideas are more or less general, abstract, and comprehensive.

So this sort of self-evidence does not belong by any special right to these two general propositions alone: "whatever is, is" and "it is impossible for the same thing to be and not to be." The perception of being or not being belongs no more to these vague ideas signified by the terms "whatever" and "thing" than it does to any other ideas.

In short, these two general maxims amount to no more than this: that the same is the same, and the same is not different. These truths are known in more particular instances as well as in the general maxims. They are known in particular instances, too, before these general maxims are ever thought of. And they draw all their force from the mind's discernment exercised on particular ideas.

Nothing is more obvious than this: the mind needs no proof, and no reflection on either of these general propositions, to perceive clearly and know certainly that the idea of white is the idea of white and not the idea of blue. Nor does it need them to know that the idea of white, when it is in the mind, is there and is not absent. It perceives these things so clearly and knows them so certainly that considering these axioms can add nothing to the evidence or certainty of its knowledge.

It is just the same with all the ideas a person has in his mind, as everyone can test in himself. He knows each to be itself and not another, and to be in his mind and not absent when it is there, with a certainty that cannot be greater. So the truth of no general proposition can be known with greater certainty, or add anything to this. Thus, with respect to identity, our intuitive knowledge extends as far as our ideas do. We can make as many self-evident propositions as we have names for distinct ideas.

And I appeal to everyone's own mind: is not the proposition "a circle is a circle" as self-evident as the one made of more general terms, "whatever is, is"? And again, is not "blue is not red" a proposition that the mind can no more doubt, as soon as it understands the words, than it doubts the axiom "it is impossible for the same thing to be and not to be"? And so with all the like.

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of that axiom, it is impossible for the same thing to be, and not to be? and so of all the like.

4.7.5 2. *In coexistence we have few self-evident propositions.*—Secondly, as to coexistence, or such necessary connexion between two ideas, that, in the subject where one of them is supposed, there the other must necessarily be also: of such agreement or disagreement as this the mind has an immediate perception but in very few of them. And therefore in this sort we have but very little intuitive knowledge; nor are there to be found very many propositions that are self-evident, though some there are; *v. g.* the idea of filling a place equal to the contents of its superficies, being annexed to our idea of body, I think it is a self-evident proposition, that two bodies cannot be in the same place.

4.7.6 3. *In other relations we may have.*—Thirdly, as to the relation of modes, mathematicians have framed many axioms concerning that one relation of equality. As, equals taken from equals, the remainder will be equal; which, with the rest of that kind, however they are received for maxims by the mathematicians, and are unquestionable truths; yet, I think, that any one who considers them, will not find that they have a clearer self-evidence than these, that one and one are equal to two, that if you take from the five fingers of one hand two, and from the five fingers of the other hand two, the remaining numbers will be equal.

These and a thousand other such propositions may be found in numbers, which, at the very first hearing, force the assent, and carry with them an equal, if not greater clearness, than those mathematical axioms.

4.7.7 4. *Concerning real existence we have none.*—Fourthly, as to real existence, since that has no connexion with any other of our ideas, but that of ourselves, and of a first being, we have in that, concerning the real existence of all other beings, not so much as demonstrative, much less a self-evident knowledge; and therefore concerning those there are no maxims.

4.7.8 *These axioms do not much influence our other knowledge.*—In the next place let us consider what influence these received maxims have upon the other parts of our knowledge. The rules established in the schools, that all reasonings are

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2. *In coexistence we have few self-evident propositions.*—Second, as to coexistence: this is a necessary connection between two ideas, such that in the subject where one of them is supposed, the other must necessarily be too. The mind has an immediate perception of agreement or disagreement of this kind in only very few cases. So in this sort we have very little intuitive knowledge. Not very many self-evident propositions are to be found here, though there are some. For example, the idea of filling a place equal to the contents of its surface is attached to our idea of body. So I think it is a self-evident proposition that two bodies cannot be in the same place.

3. *In other relations we may have.*—Third, as to the relation of modes: mathematicians have framed many axioms about that one relation of equality. An example is: if equals are taken from equals, the remainders will be equal. Mathematicians receive this and the rest of that kind as maxims, and they are unquestionable truths. Yet I think anyone who considers them will find them no more clearly self-evident than these: that one and one are equal to two; that if you take two from the five fingers of one hand, and two from the five fingers of the other hand, the remaining numbers will be equal.

These and a thousand other such propositions can be found in numbers. At the very first hearing they compel assent, and they carry with them as much clearness as those mathematical axioms, if not more.

4. *Concerning real existence we have none.*—Fourth, as to real existence: it has no connection with any of our other ideas except those of ourselves and of a first being. So concerning the real existence of all other beings we have not even demonstrative knowledge, much less self-evident knowledge. And therefore there are no maxims concerning them.

These axioms do not much influence our other knowledge.—Next, let us consider what influence these received maxims have on the other parts of our knowledge. The schools established the rule that all reasoning is *ex praecognitis et praeconcessis*, from

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ex præcognitis et præconcessis, seem to lay the foundation of all other knowledge in these maxims, and to suppose them to be *prægognita;* whereby, I think, are meant these two things: first, that these axioms are those truths that are first known to the mind. And, secondly, that upon them the other parts of our knowledge depend.

4.7.9 *Because they are not the truths we first knew.*—First, that they are not the truths first known to the mind, is evident to experience, as we have shown in another place, book i. chap. ii. Who perceives not that a child certainly knows that a stranger is not its mother, that its sucking-bottle is not the rod, long before he knows that it is impossible for the same thing to be and not to be? And how many truths are there about numbers, which it is obvious to observe that the mind is perfectly acquainted with, and fully convinced of, before it ever thought on these general maxims, to which mathematicians, in their arguings, do sometimes refer them!

Whereof the reason is very plain; for that which makes the mind assent to such propositions being nothing else but the perception it has of the agreement or disagreement of its ideas, according as it finds them affirmed or denied one of another, in words it understands; and every idea being known to be what it is, and every two distinct ideas being known not to be the same; it must necessarily follow, that such self-evident truths must be first known, which consist of ideas that are first in the mind: and the ideas first in the mind, it is evident, are those of particular things, from whence, by slow degrees, the understanding proceeds to some few general ones; which being taken from the ordinary and familiar objects of sense, are settled in the mind, with general names to them.

Thus particular ideas are first received and distinguished, and so knowledge got about them; and next to them, the less general or specific, which are next to particular for abstract ideas are not so obvious or easy to children, or the yet unexercised mind, as particular ones. If they seem so to grown men, it is only because by constant and familiar use they are made so. For when we nicely reflect upon them, we shall find, that general ideas are fictions and contrivances of the mind, that carry difficulty with them, and do

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things already known and already granted. This rule seems to lay the foundation of all other knowledge in these maxims, and to suppose them to be *praecognita*, things known beforehand. By this, I think, two things are meant. First, these axioms are the truths the mind knows first. Second, the other parts of our knowledge depend on them.

Because they are not the truths we first knew.—First, experience makes it evident that they are not the truths the mind knows first, as we have shown elsewhere (Book I, Chapter 2). Who does not see that a child certainly knows that a stranger is not its mother, and that its feeding bottle is not the rod, long before it knows that it is impossible for the same thing to be and not to be? And there are many truths about numbers that the mind is obviously perfectly acquainted with, and fully convinced of, before it ever thought of these general maxims, to which mathematicians sometimes refer them in their arguments!

The reason for this is very plain. What makes the mind assent to such propositions is nothing but its perception of the agreement or disagreement of its ideas, as it finds them affirmed or denied of one another in words it understands. Every idea is known to be what it is, and every two distinct ideas are known not to be the same. So it necessarily follows that the self-evident truths known first must be those that consist of the ideas that are first in the mind. And the ideas first in the mind are evidently those of particular things. From these the understanding proceeds by slow degrees to a few general ones. Because these are taken from the ordinary and familiar objects of sense, they are settled in the mind with general names attached to them.

Thus particular ideas are received and distinguished first, and so we gain knowledge about them. Next come the less general, or specific, ideas, which are closest to particular ones. For abstract ideas are not as obvious or easy as particular ones for children, or for a mind not yet exercised. If they seem so to grown men, it is only because constant and familiar use has made them so. For when we reflect carefully on them, we shall find that general ideas are fictions and contrivances of the mind. They carry difficulty with

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not so easily offer themselves as we are apt to imagine.

For example, does it not require some pains and skill to form the general idea of a triangle (which is yet none of the most abstract, comprehensive, and difficult)? for it must be neither oblique nor rectangle, neither equilateral, equicrural, nor scalenon; but all and none of these at once. In effect, it is something imperfect, that cannot exist; an idea wherein some parts of several different and inconsistent ideas are put together. It is true, the mind, in this imperfect state, has need of such ideas, and makes all the haste to them it can, for the conveniency of communication and enlargement of knowledge; to both which it is naturally very much inclined.

But yet one has reason to suspect such ideas are marks of our imperfection; at least this is enough to show, that the most abstract and general ideas are not those that the mind is first and most easily acquainted with, not such as its earliest knowledge is conversant about.

4.7.10 *Because on them the other parts of our knowledge do not depend.*—Secondly, from what has been said, it plainly follows, that these magnified maxims are not the principles and foundations of all our other knowledge. For, if there be a great many other truths, which have as much self-evidence as they, and a great many that we know before them, it is impossible they should be the principles from which we deduce all other truths. Is it impossible to know that one and two are equal to three, but by virtue of this or some such axiom, viz. the whole is equal to all its parts taken together?

Many a one knows that one and two are equal to three, without having heard or thought on that, or any other axiom, by which it might be proved: and knows it as certainly as any other man knows that the whole is equal to all its parts, or any other maxim, and all from the same reason of self-evidence; the equality of those ideas being as visible and certain to him without that, or any other axiom, as with it, it needing no proof to make it perceived. Nor after the knowledge, that the whole is equal to all its parts, does he know

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them, and do not offer themselves as easily as we tend to imagine.

For example, does it not take some effort and skill to form the general idea of a triangle, which is still not one of the most abstract, comprehensive, and difficult? For it must be neither oblique nor right-angled, neither equilateral, isosceles, nor scalene, but all and none of these at once. In effect, it is something imperfect that cannot exist: an idea in which some parts of several different and inconsistent ideas are put together. It is true that the mind, in this imperfect state, needs such ideas. It hurries toward them as fast as it can, for the convenience of communication and the enlargement of knowledge, and it is naturally very much inclined to both.[14]

But still, one has reason to suspect that such ideas are marks of our imperfection. At least this is enough to show that the most abstract and general ideas are not the ones the mind is first and most easily acquainted with, and not the ones its earliest knowledge is concerned with.

Because on them the other parts of our knowledge do not depend.—Second, from what has been said it plainly follows that these much-magnified maxims are not the principles and foundations of all our other knowledge. There are a great many other truths that are as self-evident as they are, and a great many that we know before them. If so, it is impossible that they should be the principles from which we deduce all other truths. Is it impossible to know that one and two are equal to three except by virtue of this or some similar axiom, namely, the whole is equal to all its parts taken together?

Many a person knows that one and two are equal to three without having heard or thought of that axiom, or of any other by which it might be proved. And he knows it as certainly as anyone else knows that the whole is equal to all its parts, or any other maxim, and all for the same reason of self-evidence. The equality of those ideas is as visible and certain to him without that axiom, or any other, as with it, because it needs no proof to be perceived. Nor, after learning that the whole is equal to all its parts, does he know that one and

14 Berkeley quotes this passage in the Introduction to his *Principles of Human Knowledge* (1710) as his chief target in attacking abstract ideas.

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that one and two are equal to three, better or more certainly than he did before.

For if there be any odds in those ideas, the whole and parts are more obscure, or at least more difficult to be settled in the mind, than those of one, two, and three. And indeed, I think, I may ask these men, who will needs have all knowledge, besides those general principles themselves, to depend on general, innate, and self-evident principles, what principle is requisite to prove, that one and one are two, that two and two are four, that three times two are six?

Which being known without any proof do evince, that either all knowledge does not depend on certain *prœcognita*, or general maxims called principles, or else that these are principles; that if these are to be counted principles, a great part of numeration will be so. To which if we add all the self-evident propositions, which may be made about all our distinct ideas, principles will be almost infinite, at least, innumerable, which men arrive to the knowledge of at different ages: and a great many of these innate principles they never come to know all their lives.

But whether they come in view of the mind earlier or later, this is true of them, that they are all known by their native evidence, are wholly independent, receive no light, nor are capable of any proof one from another; much less the more particular from the more general; or the more simple from the more compounded: the more simple and less abstract being the most familiar, and the easier and earlier apprehended. But which ever be the clearest ideas, the evidence and certainty of all such propositions is in this, that a man sees the same idea to be the same idea, and infallibly perceives two different ideas to be different ideas.

For when a man has in his understanding the ideas of one and of two, the idea of yellow, and the idea of blue, he cannot but certainly know, that the idea of one is the idea of one, and not the idea of two; and that the idea of yellow is the idea of yellow, and not the idea of blue. For a man cannot confound the ideas in his mind, which he has distinct: that would be to have them confused and distinct at the same time, which is a contradiction: and to have none distinct is to have

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two are equal to three any better or more certainly than he did before.

For if there is any difference between those ideas, the ideas of whole and parts are more obscure, or at least harder to settle in the mind, than those of one, two, and three. And indeed I think I may put a question to these men who insist that all knowledge, apart from those general principles themselves, depends on general, innate, and self-evident principles. What principle is needed to prove that one and one are two, that two and two are four, that three times two are six?

These are known without any proof, and that shows one of two things. Either not all knowledge depends on certain *praecognita*, or general maxims called principles, or else these are principles too. And if these are to be counted principles, a great part of counting will be principles. If we add all the self-evident propositions that can be made about all our distinct ideas, principles will be almost infinite, or at least innumerable. Men come to know them at different ages, and a great many of these innate principles they never come to know in their whole lives.

But whether they come into the mind's view earlier or later, this is true of them: they are all known by their own native evidence, and are wholly independent. They receive no light from one another, and none can be proved from another—much less the more particular from the more general, or the simpler from the more compounded. For the simpler and less abstract are the most familiar, and are grasped more easily and earlier. But whichever ideas are the clearest, the evidence and certainty of all such propositions lies in this: a man sees the same idea to be the same idea, and infallibly perceives two different ideas to be different ideas.

Suppose a man has in his understanding the ideas of one and of two, the idea of yellow, and the idea of blue. He cannot help knowing for certain that the idea of one is the idea of one, and not the idea of two, and that the idea of yellow is the idea of yellow, and not the idea of blue. For a man cannot confuse the ideas he has distinct in his mind. That would be to have them confused and distinct at the same time, which is a contradiction. And to have none distinct is to have no use of our faculties and no knowledge at all.

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no use of our faculties, to have no knowledge at all.

And therefore what idea soever is affirmed of itself, or whatsoever two entire distinct ideas are denied one of another, the mind cannot but assent to such a proposition, as infallibly true, as soon as it understands the terms, without hesitation or need of proof, or regarding those made in more general terms, and called maxims.

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And therefore, whenever any idea is affirmed of itself, or any two entirely distinct ideas are denied of one another, the mind cannot help assenting to such a proposition as infallibly true as soon as it understands the terms. It does so without hesitation or need of proof, and without regard to the propositions made in more general terms and called maxims.

WHAT MAXIMS ARE GOOD FOR

Maxims help in teaching and in silencing wranglers, but discover nothing and can prove contradictions.

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4.7.11 *What use these general maxims have.*—What shall we then say? Are these general maxims of no use? By no means, though perhaps their use is not that which it is commonly taken to be. But since doubting in the least of what hath been by some men ascribed to these maxims may be apt to be cried out against, as overturning the foundations of all the sciences; it may be worth while to consider them, with respect to other parts of our knowledge, and examine more particularly to what purposes they serve, and to what not.

1. It is evident from what has been already said, that they are of no use to prove or confirm less general self-evident propositions.

2. It is as plain that they are not, nor have been, the foundations whereon any science hath been built. There is, I know, a great deal of talk, propagated from scholastic men, of sciences and the maxims on which they are built but it has been my ill luck never to meet with any such sciences; much less any one built upon these two maxims, what is, is; and it is impossible for the same thing to be and not to be.

And I would be glad to be shown where any such science, erected upon these or any other general axioms, is to be found: and should be obliged to any one who would lay before me the frame and system of any science so built on these or any such like maxims, that could not be shown to stand as firm without any consideration of them. I ask, whether these general maxims have not the same use in the study of divinity, and in theological questions, that they have in other

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What use these general maxims have.—What, then, shall we say? Are these general maxims of no use? By no means, though perhaps their use is not what it is commonly taken to be. But some men have ascribed a great deal to these maxims, and even the slightest doubt about it is likely to be denounced as overturning the foundations of all the sciences. So it may be worthwhile to consider them in relation to other parts of our knowledge, and to examine more particularly what purposes they serve and what they do not.

1. It is evident from what has already been said that they are of no use to prove or confirm less general self-evident propositions.

2. It is just as plain that they are not, and never have been, the foundations on which any science has been built. There is, I know, a great deal of talk spread by the scholastics about sciences and the maxims on which they are built. But I have had the bad luck never to come across any such sciences, much less any built on these two maxims: what is, is; and it is impossible for the same thing to be and not to be.

I would be glad to be shown where any such science, erected on these or any other general axioms, is to be found. I would be obliged to anyone who would lay before me the structure and system of any science built on these or any similar maxims, provided it could not be shown to stand just as firm without any consideration of them. I ask whether these general maxims do not have the same use in the study of theology, and in theolo-

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sciences? They serve here too to silence wranglers, and put an end to dispute.

But I think that nobody will therefore say, that the Christian religion is built upon these maxims, or that the knowledge we have of it is derived from these principles. It is from revelation we have received it, and without revelation these maxims had never been able to help us to it. When we find out an idea, by whose intervention we discover the connexion of two others, this is a revelation from God to us, by the voice of reason. For we then come to know a truth that we did not know before. When God declares any truth to us, this is a revelation to us by the voice of his Spirit, and we are advanced in our knowledge.

But in neither of these do we receive our light or knowledge from maxims. But in the one, the things themselves afford it, and we see the truth in them by perceiving their agreement or disagreement: in the other, God himself affords it immediately to us, and we see the truth of what he says in his unerring veracity.

3. They are not of use to help men forward in the advancement of sciences, or new discoveries of yet unknown truths. Mr Newton, in his never enough to be admired book, has demonstrated several propositions, which are so many new truths, before unknown to the world, and are farther advances in mathematical knowledge; but, for the discovery of these, it was not the general maxims, what is, is; or, the whole is bigger than a part; or the like, that helped him. These were not the clues that led him into the discovery of the truth and certainty of those propositions.

Nor was it by them that he got the knowledge of those demonstrations; but by finding out intermediate ideas, that showed the agreement or disagreement of the ideas, as expressed in the propositions he demonstrated. This is the greatest exercise and improvement of human understanding in the enlarging of knowledge, and advancing the sciences; wherein they are far enough from receiving any help from the contemplation of these, or the like magnified maxims.

Would those who have this traditional admiration of these propositions, that they think no step can

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gical questions, as they have in other sciences. They serve here too to silence wranglers and put an end to dispute.

But I think nobody will say on that account that the Christian religion is built on these maxims, or that the knowledge we have of it is derived from these principles. We have received it from revelation, and without revelation these maxims could never have helped us to it. When we find an idea by whose intervention we discover the connection of two others, this is a revelation from God to us by the voice of reason. For we then come to know a truth we did not know before. When God declares any truth to us, this is a revelation to us by the voice of his Spirit, and our knowledge is advanced.

But in neither case do we receive our light or knowledge from maxims. In the one, the things themselves supply it, and we see the truth in them by perceiving their agreement or disagreement. In the other, God himself supplies it to us immediately, and we see the truth of what he says in his unerring veracity.

3. They are of no use in helping men forward in advancing the sciences, or in new discoveries of truths still unknown. Mr. Newton, in his book that can never be admired enough, has demonstrated several propositions. They are so many new truths, previously unknown to the world, and further advances in mathematical knowledge. But in discovering them he was not helped by the general maxims "what is, is," or "the whole is bigger than a part," or the like. These were not the clues that led him to discover the truth and certainty of those propositions.

Nor was it by them that he gained the knowledge of those demonstrations. It was by finding intermediate ideas that showed the agreement or disagreement of the ideas expressed in the propositions he demonstrated. This is the greatest exercise and improvement of the human understanding in enlarging knowledge and advancing the sciences, and in it the understanding gets no help at all from contemplating these or similar much-magnified maxims.

Some people have such a traditional admiration for these propositions that they think no step can

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be made in knowledge without the support of an axiom, no stone laid in the building of the sciences without a general maxim, but distinguish between the method of acquiring knowledge, and of communicating; between the method of raising any science, and that of teaching it to others as far as it is advanced: they would see that those general maxims were not the foundations on which the first discoverers raised their admirable structures, nor the keys that unlocked and opened those secrets of knowledge.

Though afterward, when schools were erected, and sciences had their professors to teach what others had found out, they often made use of maxims, *i. e.* laid down certain propositions which were self-evident, or to be received for true; which being settled in the minds of their scholars, as unquestionable verities, they on occasion made use of, to convince them of truths in particular instances, that were not so familiar to their minds as those general axioms which had before been inculcated to them, and carefully settled in their minds.

Though these particular instances, when well reflected on, are no less self-evident to the understanding than the general maxims brought to confirm them; and it was in those particular instances that the first discoverer found the truth, without the help of the general maxims: and so may any one else do, who with attention considers them.

To come therefore to the use that is made of maxims.

1. They are of use, as has been observed, in the ordinary methods of teaching sciences as far as they are advanced; but of little or none in advancing them farther.

2. They are of use in disputes, for the silencing of obstinate wranglers, and bringing those contests to some conclusion. Whether a need of them to that end came not in, in the manner following, I crave leave to inquire. The schools having made disputation the touchstone of men's abilities, and the criterion of knowledge, adjudged victory to him that kept the field: and he that had the last word was concluded to have the better of the argument, if not of the cause.

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be taken in knowledge without the support of an axiom, and no stone laid in the building of the sciences without a general maxim. If only they would distinguish between the method of acquiring knowledge and that of communicating it—between the method of raising a science and that of teaching it to others as far as it has advanced! Then they would see that those general maxims were not the foundations on which the first discoverers raised their admirable structures, nor the keys that unlocked and opened those secrets of knowledge.

Later, it is true, when schools were set up, and sciences had professors to teach what others had found out, the teachers often made use of maxims. That is, they laid down certain propositions that were self-evident, or were to be accepted as true. Once these were settled in their students' minds as unquestionable truths, the teachers used them when the occasion arose to convince the students of truths in particular instances. These were truths not as familiar to their minds as the general axioms that had previously been drummed into them and carefully settled in their minds.

Yet these particular instances, when properly reflected on, are no less self-evident to the understanding than the general maxims brought to confirm them. It was in those particular instances that the first discoverer found the truth, without the help of the general maxims. And so may anyone else who considers them with attention.

To come, then, to the use that is made of maxims:

1. They are of use, as has been observed, in the ordinary methods of teaching sciences as far as they have advanced, but of little or no use in advancing them further.

2. They are of use in disputes, for silencing obstinate wranglers and bringing those contests to some conclusion. I ask leave to inquire whether the need for them for that purpose did not arise in the following way. The schools made disputation the touchstone of men's abilities and the criterion of knowledge. They awarded victory to whoever held the field, and whoever had the last word was

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But because by this means there was like to be no decision between skilful combatants, whilst one never failed of a *medius terminus* to prove any proposition; and the other could as constantly, without or with a distinction, deny the major or minor; to prevent, as much as could be, running out of disputes into an endless train of syllogisms, certain general propositions, most of them indeed self-evident, were introduced into the schools; which being such, as all men allowed and agreed in, were looked on as general measures of truth, and served instead of principles (where the disputants had not laid down any other between them) beyond which there was no going, and which must not be receded from by either side.

And thus these maxims getting the name of principles, beyond which men in dispute could not retreat, were by mistake taken to be originals and sources, from whence all knowledge began, and the foundation whereon the sciences were built. Because when in their disputes they came to any of these, they stopped there, and went no farther; the matter was determined. But how much this is a mistake hath been already shown.

This method of the schools, which have been thought the fountains of knowledge, introduced, as I suppose, the like use of these maxims into a great part of conversation out of the schools, to stop the mouths of cavillers, whom any one is excused from arguing any longer with, when they deny these general self-evident principles received by all reasonable men, who have once thought of them; but yet their use herein is but to put an end to wrangling.

They, in truth, when urged in such cases, teach nothing: that is already done by the intermediate ideas made use of in the debate, whose connexion may be seen without the help of those maxims, and so the truth known before the maxim is produced, and the argument brought to a first principle. Men would give off a wrong argument before it came to that, if in their disputes they proposed to themselves the finding and embracing of truth, and not a contest for victory. And thus maxims have their use to put a stop to

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judged to have the better of the argument, if not of the cause.

But in this way there was likely to be no decision between skillful combatants. One never failed to find a *medius terminus*, a middle term, to prove any proposition, and the other could just as constantly deny the major or the minor premise, with or without drawing a distinction. To prevent disputes from running on, as far as possible, into an endless chain of syllogisms, certain general propositions were introduced into the schools, most of them indeed self-evident. Since everyone allowed and agreed to them, they were looked on as general measures of truth. Where the disputants had not laid down any other principles between them, these served as principles beyond which there was no going, and from which neither side could retreat.

And so these maxims got the name of principles, beyond which men in dispute could not retreat. By mistake they were taken to be the origins and sources from which all knowledge began, and the foundation on which the sciences were built. This was because when disputants came to any of them, they stopped there and went no further; the matter was settled. But how much of a mistake this is has already been shown.

The schools were thought to be the fountains of knowledge, and this method of theirs, I suppose, brought a similar use of these maxims into a great part of conversation outside the schools. They were used to stop the mouths of quibblers. Anyone is excused from arguing any longer with such people when they deny these general self-evident principles, which all reasonable men accept once they have thought of them. But their use here is only to put an end to wrangling.

In truth, when they are pressed in such cases, they teach nothing. That has already been done by the intermediate ideas used in the debate, whose connection can be seen without the help of those maxims. So the truth is known before the maxim is produced and the argument is brought back to a first principle. Men would give up a wrong argument before it came to that if in their disputes they aimed at finding and embracing the truth, and not at a contest for victory. And so maxims have their use in putting a stop to the perverse-

their perverseness, whose ingenuity should have yielded sooner.

But the method of the schools having allowed and encouraged men to oppose and resist evident truth till they are baffled, *i. e.* till they are reduced to contradict themselves or some established principle; it is no wonder that they should not in civil conversation be ashamed of that, which in the schools is counted a virtue and a glory; obstinately to maintain that side of the question they have chosen, whether true or false, to the last extremity, even after conviction: a strange way to attain truth and knowledge, and that which I think the rational part of mankind, not corrupted by education, could scarce believe should ever be admitted among the lovers of truth, and the students of religion or nature, or introduced into the seminaries of those who are to propagate the truths of religion or philosophy among the ignorant and unconvinced.

How much such a way of learning is like to return young men's minds from the sincere search and love of truth, nay, and to make them doubt whether there is any such thing, or at least worth the adhering to, I shall not now inquire. This I think, that bating those places which brought the peripatetic philosophy into their schools, where it continued many ages, without teaching the world any thing but the art of wrangling; these maxims were nowhere thought the foundations on which the sciences were built, nor the great helps to the advancement of knowledge.

As to these general maxims, therefore, they are, as I have said, of great use in disputes, to stop the mouths of wranglers: but not of much use to the discovery of unknown truths, or to help the mind forward in its search after knowledge. For who ever began to build his knowledge on this general proposition, what is, is; or, it is impossible for the same thing to be and not to be: and from either of these, as from a principle of science, deduced a system of useful knowledge? Wrong opinions often involving contradictions, one of these maxims, as a touchstone, may serve well to show whither they lead.

But yet, however fit to lay open the absurdity or mistake of a man's reasoning or opinion, they are

ness of those whose candor should have made them yield sooner.

But the method of the schools has allowed and encouraged men to oppose and resist evident truth until they are baffled, that is, until they are driven to contradict themselves or some established principle. So it is no wonder that in ordinary conversation they are not ashamed of what the schools count a virtue and a glory: obstinately maintaining the side of the question they have chosen, whether true or false, to the last extremity, even after they have been refuted. It is a strange way to reach truth and knowledge. I think the rational part of mankind, not corrupted by education, could hardly believe that it would ever be admitted among the lovers of truth and the students of religion or nature. Nor could they believe it would be introduced into the seminaries of those who are to spread the truths of religion or philosophy among the ignorant and unconvinced.

How far such a way of learning is likely to turn young men’s minds away from the sincere search for truth and love of it—indeed, to make them doubt whether there is any such thing, or at least whether it is worth holding on to—I will not inquire now. This much I think: apart from those places that brought the Peripatetic philosophy into their schools, where it continued for many ages without teaching the world anything but the art of wrangling, these maxims were nowhere thought to be the foundations on which the sciences were built, or great aids to the advancement of knowledge.

As for these general maxims, then, they are, as I have said, of great use in disputes, to stop the mouths of wranglers. But they are not of much use in discovering unknown truths, or in helping the mind forward in its search for knowledge. For who ever began to build his knowledge on the general proposition “what is, is,” or “it is impossible for the same thing to be and not to be,” and deduced a system of useful knowledge from either of these, as from a principle of science? Wrong opinions often involve contradictions, and so one of these maxims can serve well as a touchstone to show where they lead.

But however fit they are to lay bare the absurdity or mistake in a man’s reasoning or opinion, they

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of very little use for enlightening the understanding: and it will not be found, that the mind receives much help from them in its progress in knowledge; which would be neither less, nor less certain, were these two general propositions never thought on. It is true, as I have said, they sometimes serve in argumentation to stop a wrangler's mouth, by showing the absurdity of what he saith, and by exposing him to the shame of contradicting what all the world knows, and he himself cannot but own to be true.

But it is one thing to show a man that he is in an error, and another to put him in possession of truth; and I would fain know what truths these two propositions are able to teach, and by their influence make us know, which we did not know before, or could not know without them. Let us reason from them as well as we can, they are only about identical predications; and influence, if any at all, none but such. Each particular proposition concerning identity or diversity is as clearly and certainly known in itself, if attended to, as either of these general ones: only these general ones, as serving in all cases, are therefore more inculcated and insisted on.

As to other less general maxims, many of them are no more than bare verbal propositions, and teach us nothing but the respect and import of names one to another. "The whole is equal to all its parts;" what real truth; I beseech you, does it teach us? What more is contained in that maxim than what the signification of the word *totum*, or the whole, does of itself import? And he that knows that the word whole stands for what is made up of all its parts, knows very little less than that the whole is equal to all its parts.

And upon the same ground, I think that this proposition, a hill is higher than a valley, and several the like, may also pass for maxims. But yet masters of mathematics, when they would, as teachers of what they know, initiate others in that science, do not without reason place this, and some other such maxims, at the entrance of their systems; that their scholars, having in the beginning perfectly acquainted their thoughts with these propositions made in such general terms, may be used to make such reflections, and have these more general propositions, as formed

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are of very little use for enlightening the understanding. It will not be found that the mind gets much help from them in its progress in knowledge. That knowledge would be neither less, nor less certain, if these two general propositions had never been thought of. It is true, as I have said, that in argument they sometimes serve to stop a wrangler's mouth. They show the absurdity of what he says, and expose him to the shame of contradicting what all the world knows, and what he himself cannot help admitting to be true.

But it is one thing to show a man that he is in error, and another to put him in possession of truth. I would very much like to know what truths these two propositions can teach us, and by their influence make us know, that we did not know before or could not know without them. Let us reason from them as well as we can: they concern only identical predications, and they influence nothing else, if they influence anything at all. Each particular proposition about identity or diversity is known in itself, if attended to, as clearly and certainly as either of these general ones. It is only that these general ones, because they serve in all cases, are for that reason drummed in and insisted on more.

As for other, less general maxims, many of them are nothing but merely verbal propositions, and teach us nothing but the relation and meaning of names to one another. "The whole is equal to all its parts": what real truth, I ask you, does it teach us? What more is contained in that maxim than what the meaning of the word *totum*, or "the whole," implies by itself? He who knows that the word "whole" stands for what is made up of all its parts already knows little less than that the whole is equal to all its parts.

And on the same ground, I think, the proposition "a hill is higher than a valley," and several like it, might also pass for maxims. Still, masters of mathematics, when as teachers of what they know they want to initiate others into that science, have good reason to place this and some other such maxims at the entrance to their systems. In this way their students, having thoroughly acquainted their thoughts at the beginning with these propositions made in such general terms, may become used to making such reflections. They will then have these

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rules and sayings, ready to apply to all particular cases.

Not that, if they be equally weighed, they are more clear and evident than the particular instances they are brought to confirm but that, being more familiar to the mind, the very naming them is enough to satisfy the understanding. But this, I say, is more from our custom of using them, and the establishment they have got in our minds, by our often thinking of them, than from the different evidence of the things.

But before custom has settled methods of thinking and reasoning in our minds, I am apt to imagine it is quite otherwise; and that the child, when a part of his apple is taken away, knows it better in that particular instance than by this general proposition, the whole is equal to all its parts; and that if one of these have need to be confirmed to him by the other, the general has more need to be let into his mind by the particular, than the particular by the general. For in particulars our knowledge begins, and so spreads itself by degrees to generals.

Though afterward the mind takes the quite contrary course, and having drawn its knowledge into as general propositions as it can, makes those familiar to its thoughts, and accustoms itself to have recourse to them, as to the standards of truth and falsehood. By which familiar use of them, as rules to measure the truth of other propositions, it comes in time to be thought, that more particular propositions have their truth and evidence from their conformity to these more general ones, which in discourse and argumentation are so frequently urged, and constantly admitted. And this I think to be the reason why, among so many self-evident propositions, the most general only have had the title of maxims.

4.7.12 *Maxims, if care be not taken in the use of words, may prove contradictions.*—One thing farther, I think, it may not be amiss to observe concerning these general maxims, that they are so far from improving or establishing our minds in true knowledge, that if our notions be wrong, loose, and unsteady, and we resign up our thoughts to the sounds of words, rather than fix them on settled determinate ideas of things; I say, these general maxims will serve to confirm us in

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more general propositions ready, as established rules and sayings, to apply to all particular cases.

This is not because, weighed fairly, they are clearer and more evident than the particular instances they are brought to confirm. It is because, being more familiar to the mind, the mere naming of them is enough to satisfy the understanding. But this, I say, comes more from our habit of using them, and the settled place they have gained in our minds by our often thinking of them, than from any difference in the evidence of the things.

But before habit has settled methods of thinking and reasoning in our minds, I am inclined to think it is quite otherwise. When part of a child's apple is taken away, he knows it better in that particular instance than by the general proposition "the whole is equal to all its parts." And if one of these needs to be confirmed to him by the other, the general has more need to be let into his mind by the particular than the particular by the general. For our knowledge begins in particulars, and so spreads by degrees to generals.

Afterward, though, the mind takes the quite opposite course. Having drawn its knowledge into propositions as general as it can, it makes those familiar to its thoughts, and gets used to turning to them as the standards of truth and falsehood. Through this familiar use of them as rules for measuring the truth of other propositions, it comes in time to be thought that more particular propositions get their truth and evidence from their conformity to these more general ones, which are so frequently pressed and so constantly accepted in discussion and argument. And this, I think, is the reason why, among so many self-evident propositions, only the most general have been given the title of maxims.

Maxims, if care be not taken in the use of words, may prove contradictions.—There is one more thing about these general maxims that I think it may not be amiss to point out. Far from improving our minds or establishing them in true knowledge, these general maxims, if our notions are wrong, loose, and unsteady, and we surrender our thoughts to the sounds of words instead of fixing them on settled, determinate ideas of things, will serve to confirm us in our mistakes. And with that

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mistakes; and in such a way of use of words, which is most common, will serve to prove contradictions; v.

g. *he that, with Des Cartes, shall frame in his mind an idea of what he calls body to be nothing but extension, may easily demonstrate that there is no vacuum,* i. e. no space void of body, by this maxim, what is, is. For the idea to which he annexes the name body being bare extension, his knowledge, that space cannot be without body, is certain. For he knows his own idea of extension clearly and distinctly, and knows that it is what it is, and not another idea though it be called by these three names, extension, body, space.

Which three words, standing for one and the same idea, may no doubt, with the same evidence and certainty, be affirmed one of another, as each of itself: and it is as certain, that whilst I use them all to stand for one and the same idea, this predication is as true and identical in its signification, that space is body, as this predication is true and identical, that body is body, both in signification and sound.

4.7.13 *Instance in vacuum.*—But if another should come, and make to himself another idea, different from Des Cartes's, of the thing, which yet, with Des Cartes, he calls by the same name body; and make his idea, which he expresses by the word body, to be of a thing that hath both extension and solidity together; he will as easily demonstrate that there may be a vacuum or space without a body, as Des Cartes demonstrated the contrary.

Because the idea to which he gives the name space being barely the simple one of extension; and the idea to which he gives the name body being the complex idea of extension and resistibility, or solidity, together in the same subject; these two ideas are not exactly one and the same, but in the understanding as distinct as the ideas of one and two, white and black, or as of corporiety and humanity, if I may use those barbarous terms: and therefore the predication of them in our minds, or in words standing for them, is not identical, but the negation of them one of another, viz.

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way of using words, which is the most common, they will serve to prove contradictions. For example:

suppose someone, following Descartes, forms in his mind an idea of what he calls body as nothing but extension. He can easily demonstrate by the maxim "what is, is" that there is no vacuum, that is, no space empty of body. For since the idea to which he attaches the name "body" is bare extension, his knowledge that space cannot exist without body is certain. He knows his own idea of extension clearly and distinctly, and knows that it is what it is and not another idea, even though it is called by these three names: extension, body, space.

These three words stand for one and the same idea. So no doubt they can be affirmed of one another with the same evidence and certainty as each can be affirmed of itself. And it is just as certain that, as long as I use them all to stand for one and the same idea, the predication "space is body" is as true and as identical in its meaning as the predication "body is body" is true and identical in both meaning and sound.

Instance in vacuum.—But suppose someone else comes along and makes himself another idea of the thing, different from Descartes's, though like Descartes he calls it by the same name, body. Suppose he makes the idea he expresses by the word "body" the idea of a thing that has both extension and solidity together. He will demonstrate just as easily that there can be a vacuum, or space without body, as Descartes demonstrated the contrary.

For the idea to which he gives the name "space" is merely the simple idea of extension, and the idea to which he gives the name "body" is the complex idea of extension and resistance, or solidity, together in the same subject. So these two ideas are not exactly one and the same. In the understanding they are as distinct as the ideas of one and two, of white and black, or of corporeity and humanity, if I may use such barbarous terms. Therefore the predication of one of the other, in our minds or in the words standing for them, is not identical. Rather, the denial of one of the other, namely,

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this proposition, extension or space is not body, is as true and evidently certain, as this maxim, it is impossible for the same thing to be, and not to be, can make any proposition.

4.7.14 *They prove not the existence of things without us.*— But yet, though both these propositions (as you see) may be equally demonstrated, viz. that there may be a vacuum, and that there cannot be a vacuum, by these two certain principles, viz. what is, is; and the same thing cannot be, and not be; yet neither of these principles will serve to prove to us, that any, or what bodies do exist; for what we are left to our senses, to discover to us as far as they can.

Those universal and self-evident principles, being only our constant, clear, and distinct knowledge of our own ideas, more general or comprehensive, can assure us of nothing that passes without the mind; their certainty is founded only upon the knowledge we have of each idea by itself, and of its distinction from others; about which we cannot be mistaken whilst they are in our minds, though we may be, and often are mistaken when we retain the names without the ideas; or use them confusedly, sometimes for one, and sometimes for another idea. In which cases the force of these axioms reaching only to the sound, and not the signification of the words, serves only to lead us into confusion, mistake, and error.

It is to show men that these maxims, however cried up for the great guards of truth, will not secure them from error in a careless loose use of their words, that I have made this remark. In all that is here suggested concerning their little use for the improvement of knowledge, or dangerous use in undetermined ideas, I have been far enough from saying or intending they should be laid aside, as some have been too forward to charge me. I affirm them to be truths, self-evident truths; and so cannot be laid aside. As far as their influence will reach, it is in vain to endeavour, nor will I attempt to abridge it.

But yet, without any injury to truth or knowledge, I may have reason to think their use is not answerable to the great stress which seems to be laid on them; and I may warn men not to make an ill use of them, for the confirming themselves in errors.

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the proposition "extension, or space, is not body," is as true and as evidently certain as the maxim "it is impossible for the same thing to be and not to be" can make any proposition.

They prove not the existence of things without us.—So, as you see, both of these propositions—that there can be a vacuum, and that there cannot be a vacuum—can be equally demonstrated by these two certain principles, namely, "what is, is" and "the same thing cannot be and not be." Yet neither of these principles will serve to prove to us that any bodies exist, or which ones do. For that we are left to our senses, to discover it to us as far as they can.

Those universal and self-evident principles are only our constant, clear, and distinct knowledge of our own ideas in their more general or comprehensive form. So they can assure us of nothing that happens outside the mind. Their certainty is founded only on the knowledge we have of each idea by itself, and of its distinction from others. About this we cannot be mistaken while the ideas are in our minds. But we can be, and often are, mistaken when we keep the names without the ideas, or use them confusedly, sometimes for one idea and sometimes for another. In such cases the force of these axioms reaches only to the sound of the words and not their meaning, and so serves only to lead us into confusion, mistake, and error.

I have made this remark to show men that these maxims, however much they are praised as the great guardians of truth, will not protect them from error if they use their words carelessly and loosely. In all I have suggested here about their small use for the improvement of knowledge, or their dangerous use with undetermined ideas, I have been far from saying or intending that they should be set aside, as some have been too quick to charge me. I affirm that they are truths, self-evident truths, and so they cannot be set aside. As far as their influence reaches, it is useless to try to curtail it, and I will not attempt to.

But still, without doing any injury to truth or knowledge, I may have reason to think that their use does not match the great weight that seems to be laid on them. And I may warn men not to misuse them by confirming themselves in their errors.

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4.7.15 *Their application dangerous about complex ideas.*—But let them be of what use they will in verbal propositions they cannot discover or prove to us the least knowledge of the nature of substances, as they are found and exist without us, any farther than grounded on experience. And though the consequence of these two propositions, called principles, be very clear, and their use not dangerous or hurtful, in the probation of such things wherein there is no need at all of them for proof, but such as are clear by themselves without them, viz. where our ideas are determined, and known by the names that stand for them: yet when these principles, viz.

what is, is; and it is impossible for the same thing to be, and not to be; are made use of in the probation of propositions, wherein are words standing for complex ideas; *v. g.* man, horse, gold, virtue; there they are of infinite danger, and most commonly make men receive and retain falsehood for manifest truth, and uncertainty for demonstration: upon which follow error, obstinacy, and all the mischiefs that can happen from wrong reasoning.

The reason whereof is not that these principles are less true, or of less force in proving propositions made of terms standing for complex ideas; than where the propositions are about simple ideas; but because men mistake generally, thinking that where the same terms are preserved, the propositions are about the same things, though the ideas they stand for are in truth different: therefore these maxims are made use of to support those, which in sound and appearance are contradictory propositions; as is clear in the demonstrations above mentioned about a vacuum. So that whilst men take words for things, as usually they do, these maxims may and do commonly serve to prove contradictory propositions as shall yet be farther made manifest.

4.7.16 *Instance in man.*—For instance, let man be that concerning which you would by these first principles demonstrate any thing, and we shall see, that so far as demonstration is by these principles, it is only verbal, and gives us no certain universal true proposition or knowledge of any being existing without us.

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Their application dangerous about complex ideas.—But whatever use they may have in verbal propositions, they cannot discover or prove to us the least knowledge of the nature of substances as they are found and exist outside us, except so far as it is grounded on experience. The consequences of these two propositions called principles are very clear, and their use is not dangerous or harmful, in proving things that do not need them at all for proof, because they are clear by themselves without them, namely, where our ideas are determined and are known by the names that stand for them. But when these principles, namely,

"what is, is" and "it is impossible for the same thing to be and not to be," are used to prove propositions containing words that stand for complex ideas—for example, man, horse, gold, virtue—then they are infinitely dangerous. Most commonly they make men receive and hold on to falsehood as manifest truth, and uncertainty as demonstration. From this follow error, obstinacy, and all the harm that can come from wrong reasoning.

The reason is not that these principles are less true, or have less force, in proving propositions made of terms standing for complex ideas than in propositions about simple ideas. It is that men generally make a mistake. They think that where the same terms are kept, the propositions are about the same things, even though the ideas the terms stand for are in fact different. So these maxims are used to support propositions that are contradictory in sound and appearance, as is clear from the demonstrations about a vacuum mentioned above. So as long as men take words for things, as they usually do, these maxims can serve, and commonly do serve, to prove contradictory propositions, as will be made still clearer.

Instance in man.—For instance, let man be the thing about which you want to demonstrate something by these first principles. We shall see that so far as demonstration rests on these principles, it is only verbal. It gives us no certain, universal, true proposition, and no knowledge of any being existing outside us.

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First, a child having framed the idea of a man, it is probable that his idea is just like that picture, which the painter makes of the visible appearances joined together; and such a complication of ideas together in his understanding makes up the simple complex idea which he calls man, whereof white or flesh-colour in England being one, the child can demonstrate to you that a *[Black person]* is not a man, because white colour was one of the constant simple ideas of the complex idea he calls man: and therefore he can demonstrate by the principle, it is impossible for the same thing to be, and not to be, that a *[Black person]* is not a man;

the foundation of his certainty being not that universal proposition, which perhaps he never heard nor thought of, but the clear distinct perception he hath of his own simple ideas of black and white, which he cannot be persuaded to take, nor can ever mistake one for another, whether he knows that maxim or no: and to this child, or any one who hath such an idea, which he calls man, can you never demonstrate that a man hath a soul, because his idea of man includes no such notion or idea in it.

And therefore, to him, the principle of what is, is, proves not this matter; but it depends upon collection and observation, by which he is to make his complex idea called man.

4.7.17 Secondly, another that hath gone farther in framing and collecting the idea he calls man, and to the outward shape adds laughter and rational discourse, may demonstrate that infants and changelings are no men, by this maxim, it is impossible for the same thing to be and not to be; and I have discoursed with very rational men, who have actually denied that they are men.

4.7.18 Thirdly, perhaps another makes up the complex idea which he calls man only out of the ideas of body in general, and the powers of language and reason, and leaves out the shape wholly: this man is able to demonstrate, that a man may have no hands, but be quadrupeds, neither of those being included in his idea of man; and in whatever body or shape he found speech and reason joined, that was a man: because having a clear knowledge of such a complex idea, it is certain that what is, is.

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First, when a child has formed the idea of a man, his idea is probably just like the picture a painter makes of the visible appearances joined together. Such a combination of ideas together in his understanding makes up the single complex idea he calls man. Since white or flesh color is, in England, one of these ideas, the child can demonstrate to you that a Black person is not a man, because white color was one of the constant simple ideas in the complex idea he calls man. And so he can demonstrate, by the principle that it is impossible for the same thing to be and not to be, that a Black person is not a man.

The foundation of his certainty is not that universal proposition, which perhaps he never heard or thought of. It is the clear, distinct perception he has of his own simple ideas of black and white, which he can never be persuaded to take, or ever mistake, one for the other, whether or not he knows that maxim. And to this child, or to anyone who has such an idea and calls it man, you can never demonstrate that a man has a soul, because his idea of man includes no such notion or idea.

So for him the principle "what is, is" does not prove this matter. It depends on the collection and observation by which he is to make his complex idea called man.

Second, someone else who has gone further in forming and collecting the idea he calls man, and adds laughter and rational speech to the outward shape, can demonstrate by the maxim "it is impossible for the same thing to be and not to be" that infants and severely intellectually disabled children are not men. And I have talked with very rational men who have actually denied that they are men.

Third, perhaps another makes up the complex idea he calls man only out of the ideas of body in general and the powers of language and reason, and leaves out shape entirely. This man can demonstrate that a man may have no hands but be four-footed, since neither of these is included in his idea of man. And in whatever body or shape he found speech and reason joined, that was a man. For since he has clear knowledge of such a complex idea, it is certain that what is, is.

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4.7.19 *Little use of these maxims in proofs where we have clear and distinct ideas.*—So that, if rightly considered, I think we may say, that where our ideas are determined in our minds, and have annexed to them by us known and steady names under those settled determinations, there is little need or no use at all of these maxims, to prove the agreement or disagreement of any of them.

He that cannot discern the truth or falsehood of such propositions, without the help of these and the like maxims, will not be helped by these maxims to do it; since he cannot be supposed to know the truth of these maxims themselves without proof, if he cannot know the truth of others without proof, which are as self-evident as these. Upon this ground it is, that intuitive knowledge neither requires nor admits any proof, one part of it more than another.

He that will suppose it does, takes away the foundation of all knowledge and certainty: and he that needs any proof to make him certain, and give his assent to this proposition, that two are equal to two, will also have need of a proof to make him admit, that what is, is. He that needs a probation to convince him, that two are not three, that white is not black, that a triangle is not a circle, &c. or any other two determined distinct ideas are not one and the same, will need also a demonstration to convince him, that it is impossible for the same thing to be, and not to be.

4.7.20 *Their use dangerous where our ideas are confused.*—And as these maxims are of little use where we have determined ideas, so they are, as I have shown, of dangerous use where our ideas are not determined; and where we use words that are not annexed to determined ideas, but such as are of a loose and wandering signification, sometimes standing for one, and sometimes for another idea; from which follow mistake and error, which these maxims (brought as proofs to establish propositions, wherein the terms stand for undetermined ideas) do by their authority confirm and rivet.

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Little use of these maxims in proofs where we have clear and distinct ideas.—So, if we consider it rightly, I think we may say this. Where our ideas are determined in our minds, and we have attached to them known and steady names under those settled determinations, there is little need for these maxims, or none at all, to prove the agreement or disagreement of any of them.

Whoever cannot discern the truth or falsehood of such propositions without the help of these and similar maxims will not be helped by these maxims to do it. For if he cannot know the truth of other propositions without proof, though they are as self-evident as these, he cannot be supposed to know the truth of these maxims themselves without proof. It is on this ground that intuitive knowledge neither requires nor admits any proof, one part of it any more than another.

Whoever supposes that it does takes away the foundation of all knowledge and certainty. Whoever needs a proof to make him certain of, and assent to, the proposition that two are equal to two will also need a proof to make him admit that what is, is. Whoever needs a proof to convince him that two are not three, that white is not black, that a triangle is not a circle, and so on, or that any other two determined distinct ideas are not one and the same, will also need a demonstration to convince him that it is impossible for the same thing to be and not to be.

Their use dangerous where our ideas are confused.—These maxims are of little use where we have determined ideas. And, as I have shown, their use is dangerous where our ideas are not determined, and where we use words that are not attached to determined ideas but have a loose and wandering meaning, standing sometimes for one idea and sometimes for another. From this follow mistake and error, and these maxims, brought in as proofs to establish propositions whose terms stand for undetermined ideas, confirm and rivet those errors by their authority.

TRIFLING PROPOSITIONS

Identical propositions, and those predicating part of a definition, are certain but teach nothing.

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4.8.1 *Some propositions bring no increase to our knowledge.*—Whether the maxims treated of in the foregoing chapter be of that use to real knowledge as is generally supposed, I leave to be considered. This, I think, may confidently be affirmed, that there are universal propositions, which though they be certainly true, yet they add no light to our understandings, bring no increase to our knowledge. Such are,

4.8.2 *As, first, identical propositions.*—First, all purely identical propositions. These obviously, and at first blush, appear to contain no instruction in them. For when we affirm the said term of itself, whether it be barely verbal, or whether it contains any clear and real idea, it shows us nothing but what we must certainly know before, whether such a proposition be either made by or proposed to us.

Indeed, that most general one, what is, is, may serve sometimes to show a man the absurdity he is guilty of, when by circumlocution, or equivocal terms, he would, in particular instances, deny the same thing of itself; because nobody will so openly bid defiance to common sense, as to affirm visible and direct contradictions in plain words; or if he does, a man is excused if he breaks off any farther discourse with him.

But yet, I think I may say, that neither that received maxim, nor any other identical proposition teaches us any thing: and though in such kind of propositions this great and magnified maxim, boasted to be the foundation of demonstration, may be and often is made use of to confirm them; yet all it proves amounts to no more than this, that the same word may with great certainty be affirmed of itself, without any doubt of the truth of any such proposition; and let me add also, without any real knowledge.

4.8.3 For at this rate, any very ignorant person, who can but make a proposition, and knows what he means when he says aye or no, may make a million of propositions, of whose truths he may be infallibly certain, and yet not know one thing in the world thereby; *v. g.* what is a soul, is a soul; or a soul is a soul; a spirit is a spirit; a fetiche is a

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Some propositions bring no increase to our knowledge.—Whether the maxims discussed in the previous chapter are as useful to real knowledge as is generally supposed, I leave others to consider. But this, I think, can be confidently affirmed: there are universal propositions which, though they are certainly true, add no light to our understandings and bring no increase to our knowledge. Such are:

As, first, identical propositions.—First, all purely identical propositions. These plainly, and at first glance, appear to contain no instruction. When we affirm a term of itself, whether the term is merely verbal or contains some clear and real idea, it shows us nothing we must not certainly have known already. This holds whether we make such a proposition ourselves or have it put to us.

Admittedly, that most general one, "what is, is," may sometimes serve to show a man the absurdity he is guilty of when, through roundabout phrasing or equivocal terms, he would in particular cases deny a thing of itself. For nobody will so openly defy common sense as to affirm visible and direct contradictions in plain words. Or if he does, one is excused for breaking off any further conversation with him.

Still, I think I may say that neither that accepted maxim nor any other identical proposition teaches us anything. This great and much-praised maxim, boasted of as the foundation of demonstration, may be used to confirm such propositions, and often is. Yet all it proves amounts to no more than this: that the same word may with great certainty be affirmed of itself, with no doubt about the truth of any such proposition. And, let me add, without any real knowledge.

For at this rate any very ignorant person who can merely make a proposition, and knows what he means when he says yes or no, may make a million propositions of whose truth he may be infallibly certain. Yet he will not know a single thing in the world by them. For example: what is a soul, is

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fetiche, &c. These all being equivalent to this proposition, viz. what is, is, *i. e.* what hath existence, hath existence; or who hath a soul, hath a soul. What is this more than trifling with words?

It is but like a monkey shifting his oyster from one hand to the other; and had he but words, might, no doubt, have said, "oyster in right hand is subject, and oyster in left hand is predicate:" and so might have made a self-evident proposition of oyster, *i. e.* oyster is oyster; and yet, with all this, not have been one whit the wiser or more knowing: and that way of handling the matter would much at once have satisfied the monkey's hunger, or a man's understanding; and they would have improved in knowledge and bulk together.

I know there are some who, because identical propositions are self-evident, show a great concern for them, and think they do great service to philosophy by crying them up, as if in them was contained all knowledge, and the understanding were led into all truth by them only. I grant as forwardly as any one, that they are all true and self-evident. I grant farther, that the foundation of all our knowledge lies in the faculty we have of perceiving the same idea to be the same, and of discerning it from those that are different, as I have shown in the foregoing chapter.

But how that vindicates the making use of identical propositions, for the improvement of knowledge, from the imputation of trifling, I do not see. Let any one repeat, as often as he pleases, that the will is the will, or lay what stress on it he thinks fit; of what use is this, and an infinite the like propositions, for the enlarging our knowledge? Let a man abound, as much as the plenty of words which he has will permit, in such propositions as these; a law is a law, and obligation is obligation; right is right, and wrong is wrong: will these and the like ever help him to an acquaintance with ethics? or instruct him or others in the knowledge of morality?

Those who know not, nor perhaps ever will know, what is right and what is wrong, nor the measures

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a soul; or, a soul is a soul; a spirit is a spirit; a fetish is a fetish; and so on. These are all equivalent to the proposition "what is, is," that is, what has existence has existence; or, whoever has a soul has a soul. What is this but trifling with words?[15]

It is just like a monkey shifting his oyster from one hand to the other. Had he only had words, he could no doubt have said, "Oyster in right hand is subject, and oyster in left hand is predicate." He would so have made a self-evident proposition about oyster, namely, oyster is oyster, and yet for all that not have been one bit wiser or more knowledgeable. That way of handling the matter would satisfy the monkey's hunger about as well as it would a man's understanding. The one would have grown in knowledge exactly as much as the other grew in bulk.

I know there are some who, because identical propositions are self-evident, show great concern for them. They think they do philosophy a great service by praising them up, as if all knowledge were contained in them and the understanding were led into all truth by them alone. I grant as readily as anyone that they are all true and self-evident. I grant further that the foundation of all our knowledge lies in the faculty we have of perceiving the same idea to be the same and of distinguishing it from those that are different, as I showed in the previous chapter.

But how that clears the use of identical propositions for improving knowledge of the charge of trifling, I do not see. Let anyone repeat as often as he likes that the will is the will, or lay whatever stress on it he sees fit. What use is this, or an infinite number of similar propositions, for enlarging our knowledge? Let a man pile up as many such propositions as his supply of words will allow: a law is a law, and obligation is obligation; right is right, and wrong is wrong. Will these and the like ever help him to an acquaintance with ethics, or instruct him or others in the knowledge of morality?

Those who do not know what is right and what is wrong, or the standards by which they are meas-

15 Locke's "fetiche" (from Portuguese *feitiço*) was the travelers' word for an object venerated in West Africa. Here it serves as an example of a word one can use without knowing what it stands for.

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of them, can with as much assurance make, and infallibly know the truth of these and all such propositions, as he that is best instructed in morality can do. But what advance do such propositions give in the knowledge of any thing necessary or useful for their conduct?

He would be thought to do little less than trifle, who, for the enlightening the understanding in any part of knowledge, should be busy with identical propositions, and insist on such maxims as these: substance is substance, and body is body; a vacuum is a vacuum, and a vortex is a vortex; a centaur is a centaur, and a chimera is a chimera, &c. For these, and all such are equally true, equally certain, and equally self-evident. But yet they cannot but be counted trifling, when made use of as principles of instruction, and stress laid on them, as helps to knowledge: since they teach nothing but what every one, who is capable of discourse, knows, without being told; viz.

that the same term is the same term, and the same idea the same idea. And upon this account it was that I formerly did, and do still think, the offering and inculcating such propositions, in order to give the understanding any new light or inlet into the knowledge of things, no better than trifling.

Instruction lies in something very different; and he that would enlarge his own, or another's mind, to truth he does not yet know, must find out intermediate ideas, and then lay them in such order one by another, that the understanding may see the agreement or disagreement of those in question. Propositions that do this are instructive; but they are far from such as affirm the same term of itself: which is noway to advance one's self or others in any sort of knowledge. It no more helps to that, than it would help any one in his learning to read, to have such propositions as these inculcated to him.

An A is an A, and a B is a B, which a man may know as well as any schoolmaster, and yet never be able to read a word as long as he lives. Nor do these, or any such identical propositions, help

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ured, and perhaps never will, can make these and all such propositions with as much assurance, and know their truth as infallibly, as the person best instructed in morality. But what progress do such propositions give them in the knowledge of anything necessary or useful for their conduct?

Suppose someone set out to enlighten the understanding in some branch of knowledge by busying himself with identical propositions and insisting on maxims like these: substance is substance, and body is body; a vacuum is a vacuum, and a vortex is a vortex; a centaur is a centaur, and a chimera is a chimera, and so on. He would be thought to be doing little better than trifling. For these, and all such, are equally true, equally certain, and equally self-evident. Yet they cannot help being counted trifling when they are used as principles of instruction and stress is laid on them as aids to knowledge. For they teach nothing but what everyone capable of discourse knows without being told, namely,[16]

that the same term is the same term, and the same idea the same idea. This is why I thought before, and still think, that offering such propositions and drumming them in, in order to give the understanding any new light or way into the knowledge of things, is no better than trifling.

Instruction lies in something very different. Anyone who wants to enlarge his own mind, or another's, toward truth he does not yet know must find intermediate ideas. He must then lay them side by side in such an order that the understanding can see the agreement or disagreement of the ideas in question. Propositions that do this are instructive. But they are far from those that affirm the same term of itself, which in no way advances oneself or anyone else in any sort of knowledge. That helps toward knowledge no more than it would help someone learning to read to have propositions like these drummed into him:

An A is an A, and a B is a B. A man may know this as well as any schoolmaster and still never be able to read a word as long as he lives. Nor do these, or any such identical propositions, bring him one jot

16 "Vortex" alludes to the whirlpools of subtle matter in Descartes' physics.

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him one jot forward in the skill of reading, let him make what use of them he can.

If those who blame my calling them trifling propositions had but read, and been at the pains to understand, what I had above writ in very plain English, they could not but have seen that by identical propositions I mean only such, wherein the same term, importing the same idea, is affirmed of itself: which I take to be the proper signification of identical propositions: and concerning all such, I think I may continue safely to say, that to propose them as instructive is no better than trifling. For no one who has the use of reason can miss them, where it is necessary they should be taken notice of: nor doubt of their truth, when he does take notice of them.

But if men will call propositions identical, wherein the same term is not affirmed of itself, whether they speak more properly than I, others must judge; this is certain, all that they say of propositions that are not identical in my sense, concerns not me, nor what I have said; all that I have said relating to those propositions wherein the same term is affirmed of itself. And I would fain see an instance, wherein any such can be made use of, to the advantage and improvement of any one's knowledge. Instances of other kinds, whatever use may be made of them, concern not me, as not being such as I call identical.

4.8.4 *Secondly, when a part of any complex idea is predicated of the whole.*—Secondly, another sort of trifling propositions is, when a part of the complex idea is predicated of the name of the whole; a part of the definition of the word defined. Such are all propositions wherein the genus is predicated of the species, or more comprehensive of less comprehensive terms: for what information, what knowledge carries this proposition in it, viz. lead is a metal, to a man who knows the complex idea the name lead stands for? all the simple ideas that go to the complex one signified by the term metal, being nothing but what he before comprehended, and signified by the name lead.

Indeed, to a man that knows the signification of the word metal, and not of the word lead, it is a shorter way to explain the signification of the

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further forward in the skill of reading, whatever use he makes of them.

Some find fault with my calling them trifling propositions. If they had only read, and taken the trouble to understand, what I wrote above in very plain English, they could not have failed to see what I mean by identical propositions. I mean only those in which the same term, carrying the same idea, is affirmed of itself, and I take that to be the proper meaning of "identical propositions." About all such, I think I may safely go on saying that to put them forward as instructive is no better than trifling. For no one who has the use of reason can miss them where they need to be noticed, or doubt their truth once he does notice them.

But if people choose to call propositions identical in which the same term is not affirmed of itself, others must judge whether they speak more properly than I do. This much is certain: all they say about propositions that are not identical in my sense has nothing to do with me or with what I have said. Everything I have said concerns propositions in which the same term is affirmed of itself. And I would very much like to see an example in which any such proposition can be used to the benefit and improvement of anyone's knowledge. Examples of other kinds, whatever use may be made of them, do not concern me, since they are not what I call identical.

Secondly, when a part of any complex idea is predicated of the whole.—A second sort of trifling proposition is one in which a part of the complex idea is predicated of the name of the whole, that is, a part of the definition of the word defined. Such are all propositions in which the genus is predicated of the species, or more comprehensive terms of less comprehensive ones. Take the proposition "lead is a metal." What information, what knowledge, does it carry to a man who knows the complex idea the name "lead" stands for? All the simple ideas that go into the complex one signified by the term "metal" are nothing but what he already included in, and signified by, the name "lead."

True, a man may know the meaning of the word "metal" but not of the word "lead." For him it is quicker to explain the meaning of "lead" by saying

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word lead, by saying it is a metal, which at once expresses several of its simple ideas, than to enumerate them one by one, telling him it is a body very heavy, fusible, and malleable.

4.8.5 *As part of the definition of the term defined.*—Alike trifling it is, to predicate any other part of the definition of the term defined, or to affirm any one of the simple ideas of a complex one of the name of the whole complex idea; as, all gold is fusible. For fusibility being one of the simple ideas that goes to the making up the complex one the sound gold stands for, what can it be but playing with sounds, to affirm that of the name gold, which is comprehended in its received signification?

It would be thought little better than ridiculous, to affirm gravely as a truth of moment, that gold is yellow; and I see not how it is any jot more material to say, it is fusible, unless that quality be left out of the complex idea, of which the sound gold is the mark in ordinary speech. What instruction can it carry with it to tell one that which he hath been told already, or he is supposed to know before? For I am supposed to know the signification of the word another uses to me, or else he is to tell me.

And if I know that the name gold stands for this complex idea of body, yellow, heavy, fusible, malleable, it will not much instruct me to put it solemnly afterward in a proposition, and gravely say, all gold is fusible. Such propositions can only serve to show the disingenuity of one, who will go from the definition of his own terms, by reminding him sometimes of it; but carry no knowledge with them, but of the signification of words, however certain they be.

4.8.6 *Instance, man and palfrey.*—Every man is an animal, or living body, is as certain a proposition as can be; but no more conducing to the knowledge of things, than to say, a palfrey is an ambling horse, or a neighing ambling animal, both being only about the signification of words, and make me know but this; that body, sense, and motion, or power of sensation and moving, are three of those ideas that I always comprehend and signify by the word man: and where they are not to be found together, the name man belongs not to that thing: and so of the other, that body, sense,

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it is a metal, which expresses several of its simple ideas at once, than to list them one by one, telling him it is a very heavy body, fusible and malleable.

As part of the definition of the term defined.—It is just as trifling to predicate any other part of the definition of the term defined, or to affirm any one of the simple ideas of a complex idea of the name of the whole complex idea, as in "all gold is fusible." Fusibility is one of the simple ideas that go to make up the complex one that the sound "gold" stands for. So what can it be but playing with sounds to affirm of the name "gold" what is included in its accepted meaning?

It would be thought little short of ridiculous to affirm solemnly, as an important truth, that gold is yellow. And I do not see how it is one jot more significant to say it is fusible, unless that quality is left out of the complex idea of which the sound "gold" is the mark in ordinary speech. What instruction can there be in telling someone what he has already been told, or is supposed to know already? For I am supposed to know the meaning of the word another person uses to me, or else he must tell me.

Suppose I know that the name "gold" stands for this complex idea: body, yellow, heavy, fusible, malleable. Then it will not teach me much to put it solemnly into a proposition afterward and gravely say, "all gold is fusible." Such propositions can serve only one purpose. When someone departs from the definition of his own terms, they can expose his bad faith by reminding him of it now and then. But however certain they are, they carry no knowledge with them except of the meaning of words.

Instance, man and palfrey.—"Every man is an animal, or living body" is as certain a proposition as can be. But it does no more toward the knowledge of things than saying "a palfrey is an ambling horse," or "a neighing, ambling animal." Both are only about the meaning of words. The first lets me know only this: body, sense, and motion (or the power of sensation and of moving) are three of the ideas I always include in and signify by the word "man," and where they are not found together, the name "man" does not belong to that thing. The

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and a certain way of going, with a certain kind of voice, are some of those ideas which I always comprehend and signify by the word palfrey; and when they are not to be found together, the name palfrey belongs not to that thing.

It is just the same, and to the same purpose, when any term standing for any one or more of the simple ideas, that all together make up that complex idea which is called man, is affirmed of the term man: suppose a Roman signified by the word homo all these distinct ideas united in one subject, "*corporietas, sensibilitas, potentia se movendi, rationalitas, visibilitas*," he might, no doubt, with great certainty, universally affirm, one, more, or all of these together of the word homo, but did no more than say that the word homo, in his country, comprehended in its signification all these ideas.

Much like a romance knight, who by the word palfrey signified these ideas; body of a certain figure, four-legged, with sense, motion, ambling, neighing, white, used to have a woman on his back: might with the same certainty universally affirm also any or all of these of the word palfrey; but did thereby teach no more, but that the word palfrey, in his or romance language, stood for all these, and was not to be applied to any thing where any of these were wanting.

But he that shall tell me, that in whatever thing sense, motion, reason, and laughter, were united, that thing had actually a notion of God, or would be cast into a sleep by opium, made indeed an instructive proposition; because neither having the notion of God, nor being cast into sleep by opium, being contained in the idea signified by the word man, we are by such propositions taught something more than barely what the word man stands for; and therefore the knowledge contained in it is more than verbal.

4.8.7 *For this teaches but the signification of words.*— Before a man makes any proposition, he is supposed to understand the terms he uses in it, or else he talks like a parrot, only making a noise by imitation, and framing certain sounds, which he

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second likewise lets me know only this: body, sense, a certain gait, and a certain kind of voice are some of the ideas I always include in and signify by the word "palfrey," and where they are not found together, the name "palfrey" does not belong to that thing.[17]

It is just the same, and comes to the same thing, when we take any term standing for one or more of the simple ideas that together make up the complex idea called "man" and affirm it of the term "man." Suppose a Roman signified by the word *homo* all these distinct ideas united in one subject: "*corporietas, sensibilitas, potentia se movendi, rationalitas, visibilitas*." He could no doubt, with great certainty, universally affirm one, several, or all of them together of the word *homo*. But he would be doing no more than saying that the word *homo*, in his country, included all these ideas in its meaning.[18]

He would be much like a knight in a romance who by the word "palfrey" signified these ideas: a body of a certain shape, four-legged, with sense and motion, ambling, neighing, white, and accustomed to carrying a woman on its back. The knight could with the same certainty universally affirm any or all of these of the word "palfrey." But he would teach no more by it than this: that the word "palfrey," in his language or the language of romance, stood for all these, and was not to be applied to anything that lacked any of them.

Now suppose someone tells me that in whatever thing sense, motion, reason, and laughter are united, that thing actually has a notion of God, or would be put to sleep by opium. He does make an instructive proposition. For neither having the notion of God nor being put to sleep by opium is contained in the idea signified by the word "man." So such propositions teach us something more than merely what the word "man" stands for, and the knowledge contained in them is more than verbal.

For this teaches but the signification of words.—Before a man makes any proposition, he is supposed to understand the terms he uses in it. Otherwise he talks like a parrot, only making a noise by imitation and forming certain sounds he has learned

17 A palfrey was a light saddle horse with a smooth ambling gait, the typical mount of ladies in medieval romance.
18 Latin: corporeality, sentience, the power of moving oneself, rationality, visibility.

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has learnt of others; but not as a rational creature, using them for signs of ideas which he has in his mind. The hearer also is supposed to understand the terms as the speaker uses them, or else he talks jargon, and makes an unintelligible noise. And therefore he trifles with words who makes such a proposition, which, when it is made, contains no more than one of the terms does, and which a man was supposed to know before; v.

g. a triangle hath three sides, or saffron is yellow. And this is no farther tolerable, than where a man goes to explain his terms to one who is supposed or declares himself not to understand him; and then it teaches only the signification of that word, and the use of that sign.

4.8.8 *But no real knowledge.*—We can know then the truth of two sorts of propositions with perfect certainty; the one is, of those trifling propositions which have a certainty in them, but it is only a verbal certainty, but not instructive.

And, secondly, we can know the truth, and so may be certain in propositions, which affirm something of another, which is a necessary consequence of its precise complex idea, but not contained in it; as that the external angle of all triangles is bigger than either of the opposite internal angles; which relation of the outward angle to either of the opposite internal angles making no part of the complex idea signified by the name triangle, this is a real truth, and conveys with it instructive real knowledge.

4.8.9 *General propositions concerning substances are often trifling.*—We have little or no knowledge of what combinations there be of simple ideas existing together in substances, but by our senses, we cannot make any universal certain propositions concerning them, any farther than our nominal essences lead us: which being to a very few and inconsiderable truths, in respect of those which depend on their real constitutions, the general propositions that are made about substances, if they are certain, are for the most part but trifling; and if they are instructive, are uncertain, and such as we can have no knowledge of their real truth, how much soever constant observation and analogy may assist our judgment in guessing.

Hence it comes to pass, that one may often meet with very clear and coherent discourses, that

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from others. He is not then speaking as a rational creature, using them as signs of ideas he has in his mind. The hearer, too, is supposed to understand the terms as the speaker uses them; otherwise the speaker talks jargon and makes an unintelligible noise. So a man trifles with words when he makes a proposition that, once made, contains no more than one of its terms does, and that one was supposed to know already, for example,

"a triangle has three sides," or "saffron is yellow." This is tolerable only where a man sets out to explain his terms to someone who is supposed not to understand him, or says he does not. Even then it teaches only the meaning of that word and the use of that sign.

But no real knowledge.—We can, then, know the truth of two sorts of propositions with perfect certainty. The first sort consists of those trifling propositions that have a certainty in them. But it is only a verbal certainty, not an instructive one.

Second, we can know the truth of certain propositions, and so be certain of them: those that affirm something of another thing which is a necessary consequence of its precise complex idea but is not contained in it. An example is that the external angle of every triangle is greater than either of the opposite internal angles. This relation of the external angle to either of the opposite internal angles forms no part of the complex idea signified by the name "triangle." So this is a real truth, and it carries instructive real knowledge with it.

General propositions concerning substances are often trifling.—We have little or no knowledge of what combinations of simple ideas exist together in substances except through our senses. So we cannot make any universal certain propositions about them beyond what our nominal essences lead us to. These lead to only a very few and insignificant truths compared with those that depend on the real constitutions of substances. So the general propositions made about substances, if they are certain, are for the most part merely trifling. If they are instructive, they are uncertain: we can have no knowledge of their real truth, however much constant observation and analogy may help our judgment in guessing.

This is how it happens that one often meets with very clear and coherent discourses that neverthe-

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amount yet to nothing. For it is plain, that names of substantial beings, as well as others, as far as they have relative significations affixed to them, may, with great truth, be joined negatively and affirmatively in propositions, as their relative definitions make them fit to be so joined; and propositions consisting of such terms, may, with the same clearness, be deduced one from another, as those that convey the most real truths: and all this without any knowledge of the nature or reality of things existing without us.

By this method one may make demonstrations and undoubted propositions in words, and yet thereby advance not one jot in the knowledge of the truth of things; *v. g.* he that having learnt these following words, with their ordinary mutually relative acceptations annexed to them: *v. g.* substance, man, animal, form, soul, vegetative, sensitive, rational, may make several undoubted propositions about the soul, without knowing at all what the soul really is; and of this sort, a man may find an infinite number of propositions, reasonings, and conclusions, in books of metaphysics, school divinity, and some sort of natural philosophy; and, after all, know as little of God, spirits, or bodies, as he did before he set out.

4.8.10 *And why.*—He that hath liberty to define, *i. e.* to determine the signification of his names of substances (as certainly every one does in effect, who makes them stand for his own ideas) and makes their significations at a venture, taking them for his own or other men's fancies, and not from an examination or inquiry into the nature of things themselves; may, with little trouble, demonstrate them one of another, according to those several respects and mutual relations he has given them one to another; wherein, however things agree or disagree in their own nature, he needs mind nothing but his own notions, with the names he hath bestowed upon them:

but thereby no more increases his own knowledge, than he does his riches, who, taking a bag of counters, calls one in a certain place a pound, another in another place a shilling, and a third in a third place a penny; and so proceeding, may undoubtedly reckon right, and cast up a great sum, according to his counters so placed,

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less amount to nothing. Names of substances, like other names, have relative meanings fixed to them. To that extent they may with perfect truth be joined negatively and affirmatively in propositions, as their relative definitions make them fit to be joined. And propositions made up of such terms may be deduced from one another just as clearly as those that convey the most real truths. All this without any knowledge of the nature or reality of things existing outside us.

By this method one may make demonstrations and indubitable propositions in words, and yet not advance one jot in the knowledge of the truth of things. Take someone who has learned the following words, with their ordinary mutually relative meanings attached to them: substance, man, animal, form, soul, vegetative, sensitive, rational. He may make several indubitable propositions about the soul without knowing at all what the soul really is. And a man may find an infinite number of propositions, arguments, and conclusions of this sort in books of metaphysics, scholastic theology, and some kinds of natural philosophy. Yet after all he will know as little of God, spirits, or bodies as he did before he started.

And why.—Someone who has freedom to define, that is, to fix the meaning of his names of substances, may with little trouble demonstrate them of one another. (Everyone certainly does this in effect when he makes them stand for his own ideas.) Suppose he fixes their meanings at random, taking them from his own fancies or other people's and not from any examination of or inquiry into the nature of things themselves. He can then demonstrate them of one another according to the various respects and mutual relations he has given them to each other. In doing so he need attend to nothing but his own notions and the names he has given them, however things agree or disagree in their own nature.

But by this he no more increases his knowledge than a man increases his wealth by taking a bag of counters and calling one in a certain place a pound, another in another place a shilling, and a third in a third place a penny. Proceeding this way, he may no doubt reckon correctly and add up a great sum, according to how his counters are

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and standing for more or less as he pleases, without being one jot the richer, or without even knowing how much a pound, shilling, or penny is, but only that one is contained in the other twenty times, and contains the other twelve: which a man may also do in the signification of words, by making them, in respect of one another, more, or less, or equally comprehensive.

4.8.11 *Thirdly, using words variously is trifling with them.*—Though yet concerning most words used in discourses, equally argumentative and controversial, there is this more to be complained of, which is the worst sort of trifling, and which sets us yet farther from the certainty of knowledge we hope to attain by them, or find in them; viz.

that most writers are so far from instructing us in the nature and knowledge of things, that they use their words loosely and uncertainly, and do not, by using them constantly and steadily in the same significations, make plain and clear deductions of words one from another, and make their discourses coherent and clear (how little soever they were instructive); which were not difficult to do, did they not find it convenient to shelter their ignorance or obstinacy under the obscurity and complexedness of their terms: to which, perhaps, inadvertency and ill custom do in many men much contribute.

4.8.12 *Marks of verbal propositions.*—To conclude; barely verbal propositions may be known by these following marks:

1. *Predication in abstract.*—First, all propositions, wherein two abstract terms are affirmed one of another, are barely about the signification of sounds. For since no abstract idea can be the same with any other but itself, when its abstract name is affirmed of any other term, it can signify no more but this, that it may or ought to be called by that name, or that these two names signify the same idea.

Thus, should any one say, that parsimony is frugality, that gratitude is justice, that this or that action is or is not temperate; however specious these and the like propositions may at first sight seem, yet when we come to press them, and

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placed and made to stand for more or less as he pleases. Yet he will not be one jot richer. He will not even know how much a pound, a shilling, or a penny is, but only that one is contained in the other twenty times and contains the other twelve times. A man may do the same with the meanings of words, by making them more, less, or equally comprehensive in relation to one another.[19]

Thirdly, using words variously is trifling with them.—Yet with most words used in discourses, argumentative and controversial ones alike, there is something further to complain of. It is the worst sort of trifling, and it puts us still further from the certainty of knowledge we hope to reach through them or find in them. Namely,

that most writers, far from instructing us in the nature and knowledge of things, use their words loosely and inconsistently. They do not use them constantly and steadily in the same meanings, and so they fail to make plain and clear deductions of words from one another and to make their discourses coherent and clear (however little instructive those discourses might be). This would not be hard to do, if they did not find it convenient to shelter their ignorance or obstinacy behind the obscurity and intricacy of their terms. In many people, perhaps, carelessness and bad habit contribute a good deal to this.

Marks of verbal propositions.—To conclude: merely verbal propositions can be recognized by the following marks.

1. *Predication in abstract.*—First, all propositions in which two abstract terms are affirmed of each other are merely about the meaning of sounds. For no abstract idea can be the same as any other but itself. So when its abstract name is affirmed of any other term, this can signify no more than that it may or ought to be called by that name, or that the two names signify the same idea.

Suppose, then, that someone says that parsimony is frugality, that gratitude is justice, or that this or that action is or is not temperate. However plausible these and similar propositions may seem at first sight, when we press them and examine

19 In the old English currency a pound was 20 shillings and a shilling 12 pence.

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examine nicely what they contain, we shall find that it all amounts to nothing but the signification of those terms.

4.8.13 2. *A part of the definition predicated of any term.*— Secondly, all propositions, wherein a part of the complex idea which any term stands for is predicated of that term, are only verbal: *v. g.* to say that gold is a metal, or heavy. And thus all propositions, wherein more comprehensive words called genera are affirmed of subordinate or less comprehensive, called species, or individuals, are barely verbal.

When by these two rules we have examined the propositions that make up the discourses we ordinarily meet with, both in and out of books, we shall, perhaps, find that a greater part of them, than is usually suspected, are purely about the signification of words, and contain nothing in them but the use and application of these signs.

This, I think, I may lay down for an infallible rule, that wherever the distinct idea any word stands for is not known and considered, and something not contained in the idea is not affirmed or denied of it; there our thoughts stick wholly in sounds, and are able to attain no real truth or falsehood. This, perhaps, if well heeded, might save us a great deal of useless amusement and dispute, and very much shorten our trouble and wandering, in the search of real and true knowledge.

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closely what they contain, we will find that it all amounts to nothing but the meaning of those terms.

2. *A part of the definition predicated of any term.*— Second, all propositions in which a part of the complex idea a term stands for is predicated of that term are only verbal, for example, to say that gold is a metal, or heavy. And so all propositions in which more comprehensive words, called genera, are affirmed of subordinate or less comprehensive ones, called species, or of individuals, are merely verbal.

Let us examine by these two rules the propositions that make up the discourse we ordinarily meet with, both in books and out of them. We may then find that a greater part of them than is usually suspected are purely about the meaning of words, and contain nothing but the use and application of these signs.

This, I think, I may lay down as an infallible rule. Wherever the distinct idea a word stands for is not known and considered, and something not contained in that idea is not affirmed or denied of it, our thoughts are stuck entirely in sounds and can reach no real truth or falsehood. If this is well heeded, it might save us a great deal of useless distraction and dispute, and greatly shorten our trouble and wandering in the search for real and true knowledge.

KNOWLEDGE OF OUR OWN EXISTENCE

We know our own existence by intuition; every thought and even every doubt makes it certain.

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4.9.1 *General certain propositions concern not existence.*— Hitherto we have only considered the essences of things, which being only abstract ideas, and thereby removed in our thoughts from particular existence (that being the proper operation of the mind, in abstraction, to consider an idea under no other existence, but what it has in the understanding) gives us no knowledge of real existence at all.

Where by the way we may take notice, that universal propositions, of whose truth or falsehood we can have certain knowledge, concern not existence; and farther, that all

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General certain propositions concern not existence.— So far we have considered only the essences of things. These are only abstract ideas, and so they are removed in our thoughts from particular existence. (For the proper operation of the mind in abstraction is to consider an idea as having no other existence than what it has in the understanding.) They therefore give us no knowledge of real existence at all.

We may note in passing that universal propositions whose truth or falsehood we can know with certainty do not concern existence. We may note further that all particular affirmations or denials

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particular affirmations or negations, that would not be certain if they were made general, are only concerning existence; they declaring only the accidental union or separation of ideas in things existing, which, in their abstract natures, have no known necessary union or repugnancy.

4.9.2 *A threefold knowledge of existence.*—But, leaving the nature of propositions and different ways of predication to be considered more at large in another place, let us now proceed to inquire concerning our knowledge of the existence of things, and how we come by it. I say then, that we have the knowledge of our own existence by intuition; of the existence of God by demonstration; and of other things by sensation.

4.9.3 *Our knowledge of our own existence is intuitive.*—As for our own existence, we perceive it so plainly, and so certainly, that it neither needs nor is capable of any proof. For nothing can be more evident to us than our own existence; I think, I reason, I feel pleasure and pain: can any of these be more evident to me than my own existence? If I doubt of all other things, that very doubt makes me perceive my own existence, and will not suffer me to doubt of that.

For if I know I feel pain, it is evident I have as certain perception of my own existence, as of the existence of the pain I feel or if I know I doubt, I have as certain perception of the existence of the thing doubting, as of that thought which I call doubt. Experience then convinces us that we have an intuitive knowledge of our own existence, and an internal infallible perception that we are. In every act of sensation, reasoning, or thinking, we are conscious to ourselves of our own being; and, in this matter, come not short of the highest degree of certainty.

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that would not be certain if made general concern existence only. For they declare only the accidental union or separation of ideas in existing things, ideas which in their abstract natures have no known necessary union or incompatibility.

A threefold knowledge of existence.—But let us leave the nature of propositions and the different ways of predication to be considered more fully elsewhere. Let us now go on to inquire into our knowledge of the existence of things, and how we come by it. I say, then, that we have knowledge of our own existence by intuition, of the existence of God by demonstration, and of other things by sensation.

Our knowledge of our own existence is intuitive.—As for our own existence, we perceive it so plainly and so certainly that it neither needs nor admits of any proof. For nothing can be more evident to us than our own existence. I think, I reason, I feel pleasure and pain: can any of these be more evident to me than my own existence? If I doubt all other things, that very doubt makes me perceive my own existence, and will not let me doubt that.

For if I know I feel pain, it is evident that I have as certain a perception of my own existence as of the existence of the pain I feel. Or if I know I doubt, I have as certain a perception of the existence of the thing doubting as of the thought I call doubt. Experience, then, convinces us that we have an intuitive knowledge of our own existence, and an inner, infallible perception that we are. In every act of sensation, reasoning, or thinking we are conscious to ourselves of our own being, and in this matter we fall nothing short of the highest degree of certainty.

KNOWLEDGE OF GOD

From our own existence Locke argues that an eternal, most powerful, and most knowing being exists.

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4.10.1 *We are capable of knowing certainly that there is a God.*—Though God has given us no innate ideas of himself; though he has stamped no original characters on our minds, wherein we may read his being; yet having furnished us with those faculties our minds are endowed with, he hath

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We are capable of knowing certainly that there is a God.—God has given us no innate ideas of himself; he has stamped no original characters on our minds in which we might read his being. Yet in furnishing us with the faculties our minds are endowed with, he has not left himself without wit-

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not left himself without witness: since we have sense, perception, and reason, and cannot want a clear proof of him, as long as we carry ourselves about us. Nor can we justly complain of our ignorance in this great point, since he has so plentifully provided us with the means to discover and know him, so far as is necessary to the end of our being, and the great concernment of our happiness.

But though this be the most obvious truth that reason discovers; and though its evidence be (if I mistake not) equal to mathematical certainty; yet it requires thought and attention, and the mind must apply itself to a regular deduction of it from some part of our intuitive knowledge, or else we shall be as uncertain and ignorant of this as of other propositions which are in themselves capable of clear demonstration. To show therefore that we are capable of knowing, *i. e.* being certain that there is a God, and how we may come by this certainty, I think we need go no farther than ourselves, and that undoubted knowledge we have of our own existence.

4.10.2 *Man knows that he himself is.*—I think it beyond question, that man has a clear idea of his own being; he knows certainly that he exists, and that he is something. He that can doubt, whether he be any thing or no, I speak not to, no more than I would argue with pure nothing, or endeavour to convince nonentity that it were something. If any one pretends to be so sceptical as to deny his own existence (for really to doubt of it is manifestly impossible), let him for me enjoy his beloved happiness of being nothing, until hunger, or some other pain, convince him of the contrary.

This then, I think, I may take for a truth, which every one's certain knowledge assures him of, beyond the liberty of doubting, viz. that he is something that actually exists.

4.10.3 *He knows also that nothing cannot produce a being, therefore something eternal.*—In the next place, man knows by an intuitive certainty, that bare nothing can no more produce any real being than it can be equal to two right angles. If a man knows not that nonentity, or the absence of all being, cannot be equal to two right angles, it is impossible he

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ness. For we have sense, perception, and reason, and cannot lack a clear proof of him as long as we carry ourselves about with us. Nor can we justly complain of our ignorance on this great point. He has provided us so plentifully with the means to discover and know him, as far as is necessary for the purpose of our being and the great concern of our happiness.[20]

This is the most obvious truth reason discovers, and its evidence is (if I am not mistaken) equal to mathematical certainty. Yet it still requires thought and attention. The mind must apply itself to deducing it in a regular way from some part of our intuitive knowledge. Otherwise we will be as uncertain and ignorant of this as of other propositions that are in themselves capable of clear demonstration. I want to show, then, that we are capable of knowing, that is, being certain, that there is a God, and how we may arrive at this certainty. For this I think we need go no further than ourselves and the undoubted knowledge we have of our own existence.

Man knows that he himself is.—I think it beyond question that man has a clear idea of his own being: he knows certainly that he exists, and that he is something. Anyone who can doubt whether he is anything or not, I do not address, any more than I would argue with pure nothing or try to convince nonentity that it was something. Someone may claim to be so skeptical as to deny his own existence (for really to doubt it is plainly impossible). As far as I am concerned, let him enjoy his beloved happiness of being nothing, until hunger or some other pain convinces him otherwise.

This, then, I think I may take as a truth that everyone's certain knowledge assures him of, beyond any freedom to doubt: namely, that he is something that actually exists.

He knows also that nothing cannot produce a being, therefore something eternal.—Next, man knows with intuitive certainty that bare nothing can no more produce any real being than it can be equal to two right angles. If a man does not know that nonentity, or the absence of all being, cannot be equal to two right angles, he cannot possibly know any

20 "He has not left himself without witness" echoes Acts 14:17.

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should know any demonstration in Euclid. If therefore we know there is some real being, and that nonentity cannot produce any real being, it is an evident demonstration, that from eternity there has been something; since what was not from eternity had a beginning; and what had a beginning must be produced by something else.

4.10.4 *That eternal being must be most powerful.*—Next, it is evident, that what had its being and beginning from another, must also have all that which is in, and belongs to its being, from another too. All the powers it has must be owing to, and received from, the same source. This eternal source then of all being must also be the source and original of all power; and so this eternal being must be also the most powerful.

4.10.5 *And most knowing.*—Again, a man finds in himself perception and knowledge. We have then got one step farther; and we are certain now, that there is not only some being, but some knowing intelligent being in the world.

There was a time, then, when there was no knowing being, and when knowledge began to be; or else there has been also a knowing being from eternity. If it be said, there was a time when no being had any knowledge, when that eternal being was void of all understanding; I reply, that then it was impossible there should ever have been any knowledge: it being as impossible that things wholly void of knowledge, and operating blindly, and without any perception, should produce a knowing being, as it is impossible that a triangle should make itself three angles bigger than two right ones. For it is as repugnant to the idea of senseless matter, that it should put into itself sense, perception and knowledge, as it is repugnant to the idea of a triangle, that it should put into itself greater angles than two right ones.

4.10.6 *And therefore God.*—Thus from the consideration of ourselves, and what we infallibly find in our own constitutions, our reason leads us to the knowledge of this certain and evident truth, that there is an eternal, most powerful, and most knowing being; which whether any one will please to call God, it matters not. The thing is evident; and from this idea, duly considered, will easily be deduced all those other attributes which we ought to ascribe to this eternal being.

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demonstration in Euclid. So if we know that there is some real being, and that nonentity cannot produce any real being, we have an evident demonstration that something has existed from eternity. For what did not exist from eternity had a beginning, and what had a beginning must have been produced by something else.

That eternal being must be most powerful.—Next, it is evident that what had its being and beginning from another must also have from another everything that is in it and belongs to its being. All the powers it has must be owed to, and received from, the same source. This eternal source of all being, then, must also be the source and origin of all power. And so this eternal being must also be the most powerful.

And most knowing.—Again, a man finds in himself perception and knowledge. We have now gone one step further. We are certain that there is not only some being but some knowing, intelligent being in the world.

Either, then, there was a time when there was no knowing being, and knowledge began to exist, or else there has also been a knowing being from eternity. Suppose it is said that there was a time when no being had any knowledge, when that eternal being was void of all understanding. I reply that in that case there could never have been any knowledge. For things wholly void of knowledge, operating blindly and without any perception, can no more produce a knowing being than a triangle can make its three angles greater than two right angles. It is as contrary to the idea of senseless matter that it should put sense, perception, and knowledge into itself, as it is contrary to the idea of a triangle that it should put into itself angles greater than two right angles.

And therefore God.—Thus, from considering ourselves and what we infallibly find in our own constitution, our reason leads us to the knowledge of this certain and evident truth: there is an eternal, most powerful, and most knowing being. Whether anyone chooses to call it God does not matter. The thing is evident. And from this idea, duly considered, all the other attributes we ought

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If nevertheless any one should be found so senselessly arrogant as to suppose man alone knowing and wise, but yet the product of mere ignorance and chance; and that all the rest of the universe acted only by that blind hap-hazard:—I shall leave with him that very rational and emphatical rebuke of Tully, l. ii. De Leg. to be considered at his leisure: "What can be more sillily arrogant and misbecoming than for a man to think that he has a mind and understanding in him, but yet in all the universe beside there is no such thing?

Or that those things, which with the utmost stretch of his reason he can scarce comprehend, should be moved and managed without any reason at all?" "Quid est enim verius, quam neminem esse oportere tam stulte arrogantem, ut in se mentem et rationem putet inesse, in cœlo mundoque non putet? Aut ea quæ vix summa ingenii ratione comprehendat, nulla ratione moveri putet?"

From what has been said it is plain to me, we have a more certain knowledge of the existence of a God, than of any thing our senses have not immediately discovered to us. Nay, I presume I may say, that we more certainly know that there is a God, than that there is any thing else without us. When I say we know, I mean there is such a knowledge within our reach, which we cannot miss, if we will but apply our minds to that, as we do to several other inquiries.

4.10.7 *Our idea of a most perfect being not the sole proof of a God.*—How far the idea of a most perfect being, which a man may frame in his mind, does or does not prove the existence of a God, I will not here examine. For in the different make of men's tempers and application of their thoughts, some arguments prevail more on one, and some on another, for the confirmation of the same truth.

But yet, I think, this I may say, that it is an ill way of establishing this truth, and silencing atheists, to lay the whole stress of so important a point as this upon that sole foundation; and take some

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to ascribe to this eternal being will easily be deduced.

Someone might nevertheless be so senselessly arrogant as to suppose that man alone is knowing and wise, and yet is the product of mere ignorance and chance, and that all the rest of the universe acts only by that blind haphazard. I will leave him to consider at his leisure that very rational and forceful rebuke of Cicero (*De Legibus*, book 2): "What can be more foolishly arrogant and unbecoming than for a man to think that he has a mind and understanding in him, but that in all the rest of the universe there is no such thing?[21]

Or that those things which he can scarcely comprehend with the utmost stretch of his reason should be moved and managed without any reason at all?" "Quid est enim verius, quam neminem esse oportere tam stulte arrogantem, ut in se mentem et rationem putet inesse, in cœlo mundoque non putet? Aut ea quæ vix summa ingenii ratione comprehendat, nulla ratione moveri putet?"

From what has been said, it is plain to me that we have a more certain knowledge of the existence of a God than of anything our senses have not immediately revealed to us. Indeed, I think I may say that we know more certainly that there is a God than that there is anything else outside us. When I say we know, I mean that such knowledge is within our reach. We cannot miss it if we will only apply our minds to it as we do to various other inquiries.

Our idea of a most perfect being not the sole proof of a God.—How far the idea of a most perfect being, which a man may frame in his mind, does or does not prove the existence of a God, I will not examine here. Men differ in temperament and in the way they apply their thoughts, and so some arguments carry more weight with one person, and some with another, in confirming the same truth.[22]

Still, I think I may say this: it is a poor way of establishing this truth and silencing atheists to rest the whole weight of so important a point on that

21 Cicero, *On the Laws* 2.7.16.

22 Locke means the argument from the idea of a perfect being, associated with Anselm and Descartes.

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men's having that idea of God in their minds (for it is evident some men have none, and some worse than none, and the most very different) for the only proof of a deity and out of an over-fondness of that darling invention cashier, or at least endeavour to invalidate all other arguments, and forbid us to hearken to those proofs, as being weak or fallacious, which our own existence and the sensible parts of the universe offer so clearly and so cogently to our thoughts, that I deem it impossible for a considering man to withstand them.

For I judge it as certain and clear a truth, as can any where be delivered, that the invisible things of God are clearly seen from the creation of the world, being understood by the things that are made, even his eternal power and Godhead.

Though our own being furnishes us, as I have shown, with an evident and incontestible proof of a deity, and I believe nobody can avoid the cogency of it, who will but as carefully attend to it, as to any other demonstration of so many parts;-yet this being so fundamental a truth, and of that consequence, that all religion and genuine morality depend thereon, I doubt not but I shall be forgiven by my reader, if I go over some parts of this argument again, and enlarge a little more upon them.

4.10.8 *Something from eternity.*—There is no truth more evident, than that something must be from eternity. I never yet heard of any one so unreasonable, or that could suppose so manifest a contradiction, as a time wherein there was perfectly nothing: this being of all absurdities the greatest, to imagine that pure nothing, the perfect negation and absence of all beings, should ever produce any real existence.

It being then unavoidable for all rational creatures to conclude, that something has existed from eternity; let us next see what kind of thing that must be.

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one foundation. It is a poor way to take some men's having that idea of God in their minds as the only proof of a deity. (For it is evident that some men have none, some worse than none, and most very different ones.) And it is a poor way, out of excessive fondness for that pet invention, to throw out, or at least try to discredit, all other arguments. Such people would forbid us to listen, as though they were weak or fallacious, to the proofs that our own existence and the perceptible parts of the universe present to our thoughts. Yet those proofs are so clear and forceful that I consider it impossible for a thoughtful man to resist them.

For I judge it as certain and clear a truth as can be stated anywhere that "the invisible things of God are clearly seen from the creation of the world, being understood by the things that are made, even his eternal power and Godhead."[23]

Our own being furnishes us, as I have shown, with an evident and incontestable proof of a deity. I believe nobody can escape its force who will only attend to it as carefully as to any other demonstration with so many parts. Yet this is so fundamental a truth, and of such consequence, that all religion and genuine morality depend on it. So I have no doubt my reader will forgive me if I go over some parts of this argument again and enlarge on them a little more.

Something from eternity.—No truth is more evident than that something must have existed from eternity. I have never yet heard of anyone so unreasonable as to suppose a time when there was absolutely nothing, or able to suppose so manifest a contradiction. For of all absurdities the greatest is to imagine that pure nothing, the complete negation and absence of all beings, should ever produce any real existence.

Since, then, no rational creature can avoid concluding that something has existed from eternity, let us next see what kind of thing that must be.

23 Romans 1:20.

MATTER CANNOT BE THE FIRST THINKER

Unthinking matter cannot produce thought, so the eternal being cannot be matter.

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4.10.9 *Two sorts of beings, cogitative and incogitative.*—There are but two sorts of beings in the world, that man knows or conceives.

First, such as are purely material, without sense, perception, or thought, as the clippings of our beards, and parings of our nails.

Secondly, sensible, thinking, perceiving beings, such as we find ourselves to be, which, if you please, we will hereafter call cogitative and incogitative beings; which to our present purpose, if for nothing else, are, perhaps better terms than material and immaterial.

4.10.10 *Incogitative beings cannot produce a cogitative.*—If then there must be something eternal, let us see what sort of being it must be. And to that, it is very obvious to reason, that it must necessarily be a cogitative being. For it is as impossible to conceive, that ever bare incogitative matter should produce a thinking intelligent being, as that nothing should of itself produce matter. Let us suppose any parcel of matter eternal, great or small, we shall find it, in itself, able to produce nothing.

For example, let us suppose the matter of the next pebble we meet with eternal, closely united, and the parts firmly at rest together; if there were no other being in the world, must it not eternally remain so, a dead inactive lump? Is it possible to conceive it can add motion to itself, being purely matter, or produce any thing? Matter, then, by its own strength, cannot produce in itself so much as motion: the motion it has must also be from eternity, or else be produced and added to matter by some other being more powerful than matter; matter, as is evident, having not power to produce motion in itself.

But let us suppose motion eternal too; yet matter, incogitative matter and motion, whatever changes it might produce of figure and bulk, could never produce thought: knowledge will still be as far beyond the power of motion and matter to produce, as matter is beyond the power of

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Two sorts of beings, cogitative and incogitative.—There are only two sorts of beings in the world that man knows or conceives of.

First, those that are purely material, without sense, perception, or thought, like the clippings of our beards and the parings of our nails.

Second, sensible, thinking, perceiving beings, such as we find ourselves to be. If you like, we will from now on call the two sorts cogitative and incogitative beings. For our present purpose, if for nothing else, these are perhaps better terms than material and immaterial.

Incogitative beings cannot produce a cogitative one.—If, then, there must be something eternal, let us see what sort of being it must be. It is very obvious to reason that it must necessarily be a cogitative being. For it is as impossible to conceive that bare incogitative matter could ever produce a thinking, intelligent being as that nothing could of itself produce matter. Suppose any parcel of matter, large or small, to be eternal: we will find that in itself it is able to produce nothing.

For example, let us suppose that the matter of the next pebble we come across is eternal, closely united, with its parts firmly at rest together. If there were no other being in the world, would it not have to remain that way eternally, a dead, inactive lump? Is it possible to conceive that it could add motion to itself, being purely matter, or produce anything? Matter, then, cannot by its own strength produce even so much as motion in itself. The motion it has must either also be from eternity, or else be produced and added to matter by some other being more powerful than matter, since matter, as is evident, has no power to produce motion in itself.

But let us suppose that motion is eternal too. Still, matter (incogitative matter and motion), whatever changes of figure and bulk it might produce, could never produce thought. Knowledge will still be as far beyond the power of motion and matter to produce as matter is beyond the power of nothing, or

nothing or nonentity to produce. And I appeal to every one's own thoughts, whether he cannot as easily conceive matter, produced by nothing, as thought to be produced by pure matter, when before there was no such thing as thought, or an intelligent being existing?

Divide matter into as minute parts as you will (which we are apt to imagine a sort of spiritualizing, or making a thinking thing of it); vary the figure and motion of it as much as you please; a globe, cube, cone, prism, cylinder, &c. whose diameters are about 1000000th part of a gry[1], will operate no otherwise upon other bodies of proportionable bulk than those of an inch or foot diameter; and you may as rationally expect to produce sense, thought, and knowledge, by putting together, in a certain figure and motion, gross particles of matter, as by those that are the very minutest that do any where exist.

They knock, impel, and resist one another, just as the greater do, and that is all they can do. So that if we will suppose nothing first, or eternal, matter can never begin to be: if we suppose bare matter, without motion, eternal motion can never begin to be: if we suppose only matter and motion first, or eternal; thought can never begin to be. For it is impossible to conceive that matter, either with or without motion, could have originally in and from itself sense, perception, and knowledge; as is evident from hence, that then sense, perception, and knowledge must be a property eternally inseparable from matter and every particle of it.

Not to add that though our general or specific conception of matter makes us speak of it as one thing, yet really all matter is not one individual thing, neither is there any such thing existing as one material being, or one single body that we know or can conceive. And therefore if matter were the eternal first cogitative being, there would not be one eternal infinite cogitative being, but an infinite number of eternal finite cogitative beings, independent one of another, of limited force and distinct thoughts, which could never produce that order, harmony, and beauty which are to be found in nature.

Since therefore whatsoever is the first eternal being must necessarily be cogitative; and whatsoever is first of all things must necessarily

nonentity, to produce. And I appeal to everyone's own thoughts: can he not conceive matter produced by nothing as easily as thought produced by pure matter, when before there was no such thing as thought, or any intelligent being in existence?

Divide matter into parts as minute as you like (which we are apt to imagine is a sort of spiritualizing of it, or making a thinking thing of it). Vary its figure and motion as much as you please. A globe, cube, cone, prism, cylinder, etc., whose diameters are about one-millionth of a gry[1], will act on other bodies of proportionate bulk no differently than bodies an inch or a foot in diameter do. And you may as rationally expect to produce sense, thought, and knowledge by putting together coarse particles of matter in a certain figure and motion as by putting together the very smallest particles that exist anywhere.

They knock against, push, and resist one another, just as the larger ones do, and that is all they can do. So if we suppose nothing to be first, or eternal, matter can never begin to be. If we suppose bare matter without motion to be eternal, motion can never begin to be. If we suppose only matter and motion to be first, or eternal, thought can never begin to be. For it is impossible to conceive that matter, either with or without motion, could originally have sense, perception, and knowledge in and from itself. This is evident from the fact that sense, perception, and knowledge would then have to be a property eternally inseparable from matter and from every particle of it.

Not to add that, although our general or specific conception of matter makes us speak of it as one thing, in reality all matter is not one individual thing. Nor does there exist, so far as we know or can conceive, any such thing as one material being, or one single body. So if matter were the eternal first cogitative being, there would not be one eternal, infinite cogitative being, but an infinite number of eternal, finite cogitative beings, independent of one another, of limited force and with distinct thoughts, which could never produce the order, harmony, and beauty that are found in nature.

Whatever is the first eternal being must necessarily be cogitative. Whatever is first of all things must necessarily contain within it, and actually

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contain in it and actually have, at least, all the perfections that can ever after exist; nor can it ever give to another any perfection that it hath not, either actually in itself, or at least, in a higher degree; it necessarily follows, that the first eternal being cannot be matter.

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4.10.11 *Therefore there has been an eternal wisdom.*—If therefore it be evident, that something necessarily must exist from eternity, it is also as evident, that that something must necessarily be a cogitative being: for it is as impossible that incogitative matter should produce a cogitative being, as that nothing, or the negation of all being, should produce a positive being or matter.

4.10.12 Though this discovery of the necessary existence of an eternal mind does sufficiently lead us into the knowledge of God; since it will hence follow, that all other knowing beings that have a beginning must depend on him, and have no other ways of knowledge, or extent of power, than what he gives them; and therefore if he made those, he made also the less excellent pieces of this universe, all inanimate beings, whereby his omniscience, power, and providence will be established, and all his other attributes necessarily follow: yet to clear up this a little farther, we will see what doubts can be raised against it.

4.10.13 *Whether material or no.*—First, perhaps it will be said, that though it be as clear as demonstration

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have, at least all the perfections that can ever afterward exist, and it can never give another thing any perfection that it does not have, either actually in itself or at least in a higher degree. Therefore it necessarily follows that the first eternal being cannot be matter.

Therefore there has been an eternal wisdom.—If, therefore, it is evident that something must necessarily exist from eternity, it is equally evident that this something must necessarily be a cogitative being. For it is as impossible that incogitative matter should produce a cogitative being as that nothing, or the negation of all being, should produce a positive being, or matter.

This discovery of the necessary existence of an eternal mind is enough to lead us to the knowledge of God. It follows from it that all other knowing beings that have a beginning must depend on him, and have no other ways of knowing, and no other extent of power, than what he gives them. Therefore, if he made those beings, he also made the less excellent pieces of this universe, all inanimate beings. By this his omniscience, power, and providence will be established, and all his other attributes will necessarily follow. Still, to clear this up a little further, we will see what doubts can be raised against it.

Whether material or not.—First, it may be said that, though it is as clear as demonstration can make it

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[1] A gry is 1-10th of a line, a line 1-10th of an inch, an inch 1-10th of a philosophical foot, a philosophical foot 1-3d of a pendulum, whose diadroms, in the latitude of 45 degrees, are each equal to one second of time or 1-60th of a minute. I have affectedly made use of this measure here, and the parts of it, under a decimal division, with names to them; because, I think, it would be of general convenience that this should be the common measure, in the commonwealth of letters.

[1] A gry is a tenth of a line, a line a tenth of an inch, an inch a tenth of a philosophical foot, and a philosophical foot a third of a pendulum whose diadroms, at the latitude of 45 degrees, each equal one second of time, or a sixtieth of a minute. I have deliberately used this measure here, with its parts in a decimal division and names for them, because I think it would be generally convenient for this to be the common measure in the commonwealth of letters.[24]

24 A diadrom is a single swing of a pendulum. Locke is proposing a decimal system of length based on the seconds pendulum, a scheme then discussed among natural philosophers.

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can make it, that there must be an eternal being, and that being must also be knowing; yet it does not follow, but that thinking being may also be material. Let it be so; it equally still follows, that there is a God. For if there be an eternal, omniscient, omnipotent being, it is certain that there is a God, whether you imagine that being to be material or no.

But herein, I suppose, lies the danger and deceit of that supposition: there being no way to avoid the demonstration, that there is an eternal knowing being, men, devoted to matter, would willingly have it granted, that this knowing being is material; and then letting slide out of their minds, or the discourse, the demonstration whereby an eternal knowing being was proved necessarily to exist, would argue all to be matter, and so deny a God, that is, an eternal cogitative being; whereby they are so far from establishing, that they destroy their own hypothesis.

For if there can be, in their opinion, eternal matter, without any eternal cogitative being, they manifestly separate matter and thinking, and suppose no necessary connexion of the one with the other, and so establish the necessity of an eternal spirit, but not of matter, since it has been proved already, that an eternal cogitative being is unavoidably to be granted. Now if thinking and matter may be separated, the eternal existence of matter will not follow from the eternal existence of a cogitative being, and they suppose it to no purpose.

4.10.14 *Not material*, 1. *Because every particle of matter is not cogitative.*—But now let us suppose they can satisfy themselves or others, that this eternal thinking being is material.

First, I would ask them, whether they imagine, that all matter, every particle of matter, thinks? This, I suppose, they will scarce say; since then there would be as many eternal thinking beings as there are particles of matter, and so an infinity of gods. And yet if they will not allow matter as matter, that is, every particle of matter, to be as well cogitative as extended, they will have as hard a task to make out to their own reasons a cogitative being out of incogitative particles, as an extended being out of unextended parts, if I may so speak.

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that there must be an eternal being, and that this being must also be knowing, it does not follow that this thinking being cannot also be material. Let it be so: it still follows just as much that there is a God. For if there is an eternal, omniscient, omnipotent being, it is certain that there is a God, whether you imagine that being to be material or not.

But here, I suppose, lies the danger and the trick of that supposition. Since there is no way to avoid the demonstration that there is an eternal knowing being, men devoted to matter would gladly have it granted that this knowing being is material. Then, letting slip out of their minds, or out of the discussion, the demonstration by which an eternal knowing being was proved to exist necessarily, they would argue that everything is matter, and so deny a God, that is, an eternal cogitative being. In doing so they are so far from establishing their own hypothesis that they destroy it.

For if, in their opinion, there can be eternal matter without any eternal cogitative being, they plainly separate matter and thinking, and suppose no necessary connection between the one and the other. So they establish the necessity of an eternal spirit, but not of matter, since it has already been proved that an eternal cogitative being must unavoidably be granted. Now if thinking and matter can be separated, the eternal existence of matter will not follow from the eternal existence of a cogitative being, and they suppose it to no purpose.

Not material: 1. *Because not every particle of matter is cogitative.*—But now let us suppose they can satisfy themselves, or others, that this eternal thinking being is material.

First, I would ask them whether they imagine that all matter, every particle of matter, thinks. This, I suppose, they will hardly say, since then there would be as many eternal thinking beings as there are particles of matter, and so an infinity of gods. And yet if they will not allow matter as matter, that is, every particle of matter, to be cogitative as well as extended, they will have as hard a task making out to their own reason a cogitative being built from incogitative particles as an extended being built from unextended parts, if I may put it that way.

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4.10.15 2. *One particle alone of matter cannot be cogitative.*—Secondly, if all matter does not think, I next ask, "Whether it be only one atom that does so?" This has as many absurdities as the other; for then this atom of matter must be alone eternal or not. If this alone be eternal, then this alone, by its powerful thought or will, made all the rest of matter. And so we have the creation of matter by a powerful thought, which is that the materialists stick at. For if they suppose one single thinking atom to have produced all the rest of matter, they cannot ascribe that pre-eminency to it upon any other account than that of its thinking, the only supposed difference.

But allow it to be by some other way, which is above our conception, it must still be creation, and these men must give up their great maxim, *ex nihilo nil fit*. If it be said, that all the rest of matter is equally eternal, as that thinking atom, it will be to say any thing at pleasure, though ever so absurd: for to suppose all matter eternal, and yet one small particle in knowledge and power infinitely above all the rest, is without any the least appearance of reason to frame an hypothesis.

Every particle of matter, as matter, is capable of all the same figures and motions of any other; and I challenge any one, in his thoughts, to add any thing else to one above another.

4.10.16 3. *A system of incogitative matter cannot be cogitative.*—If then neither one peculiar atom alone can be this eternal thinking being; nor all matter as matter, *i. e.* every particle of matter, can be it; it only remains, that it is some certain system of matter duly put together, that is this thinking eternal being. This is that which, I imagine, is that notion which men are aptest to have of God, who would have him a material being, as most readily suggested to them, by the ordinary conceit they have of themselves, and other men, which they take to be material thinking beings.

But this imagination, however more natural, is no less absurd than the other; for to suppose the eternal thinking being to be nothing else but a composition of particles of matter, each whereof is incogitative, is to ascribe all the wisdom and

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2. *One particle of matter alone cannot be cogitative.*—Second, if all matter does not think, I next ask, "Is it only one atom that does so?" This has as many absurdities as the other. For then this atom of matter must either be eternal alone, or not. If it alone is eternal, then it alone, by its powerful thought or will, made all the rest of matter. And so we have the creation of matter by a powerful thought, which is exactly what the materialists balk at. For if they suppose that one single thinking atom produced all the rest of matter, they cannot ascribe that pre-eminence to it on any account other than its thinking, the only supposed difference.

But grant that it was done in some other way, beyond our conception: it must still be creation, and these men must give up their great maxim, *ex nihilo nil fit*. If it is said that all the rest of matter is as eternal as that thinking atom, that is to say anything one likes, however absurd. For to suppose all matter eternal, and yet one small particle infinitely above all the rest in knowledge and power, is to frame a hypothesis without the least appearance of reason.[26]

Every particle of matter, as matter, is capable of all the same figures and motions as any other; and I challenge anyone to add, in his thoughts, anything else to one particle over another.

3. *A system of incogitative matter cannot be cogitative.*—If, then, this eternal thinking being can be neither one particular atom alone, nor all matter as matter, that is, every particle of matter, it only remains that it is some certain system of matter, properly put together. This, I imagine, is the notion of God most readily held by those who would have him be a material being. It is the notion most readily suggested to them by the ordinary conception they have of themselves and other men, whom they take to be material thinking beings.

But this imagination, however more natural, is no less absurd than the other. To suppose that the eternal thinking being is nothing but a composition of particles of matter, each of which is incogitative, is to ascribe all the wisdom and know-

26 Latin: "nothing comes from nothing," the ancient principle of Lucretius and the atomists.

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knowledge of that eternal being only to the juxtaposition of parts; than which nothing can be more absurd. For unthinking particles of matter, however put together, can have nothing thereby added to them, but a new relation of position, which it is impossible should give thought and knowledge to them.

4.10.17 *Whether in motion or at rest.*—But farther, this corporeal system either has all its parts at rest, or it is a certain motion of the parts wherein its thinking consists. If it be perfectly at rest, it is but one lump, and so can have no privileges above one atom.

If it be the motion of its parts on which its thinking depends, all the thoughts there must be unavoidably accidental and limited; since all the particles that by motion cause thought, being each of them in itself without any thought, cannot regulate its own motions, much less be regulated by the thought of the whole; since that thought is not the cause of motion (for then it must be antecedent to it, and so without it) but the consequence of it, whereby freedom, power, choice, and all rational and wise thinking or acting, will be quite taken away: so that such a thinking being will be no better nor wiser than pure blind matter; since to resolve all into the accidental unguided motions of blind matter, or into thought depending on unguided motions of blind matter, is the same thing; not to mention the narrowness of such thoughts and knowledge that must depend on the motion of such parts.

But there needs no enumeration of any more absurdities and impossibilities in this hypothesis (however full of them it be) than that beforementioned; since let this thinking system be all, or a part of the matter of the universe, it is impossible that any one particle should either know its own or the motion of any other particle, or the whole know the motion of every particle; and so regulate its own thoughts or motions, or indeed have any thought resulting from such motion.

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ledge of that eternal being merely to the juxtaposition of parts, and nothing could be more absurd than that. For unthinking particles of matter, however they are put together, can have nothing added to them by it except a new relation of position, and it is impossible that this should give them thought and knowledge.

Whether in motion or at rest.—Further, this corporeal system either has all its parts at rest, or its thinking consists in a certain motion of the parts. If it is perfectly at rest, it is just one lump, and so can have no privileges above a single atom.

If it is the motion of its parts on which its thinking depends, all its thoughts must unavoidably be accidental and limited. All the particles that cause thought by their motion are each of them in itself without any thought, so none of them can regulate its own motions, much less be regulated by the thought of the whole. For that thought is not the cause of the motion (for then it would have to come before it, and so exist without it) but its consequence. In this way freedom, power, choice, and all rational and wise thinking or acting are entirely taken away, so that such a thinking being will be no better or wiser than pure blind matter. For to reduce everything to the accidental, unguided motions of blind matter, or to thought depending on the unguided motions of blind matter, is the same thing. And this is not to mention the narrowness of the thoughts and knowledge that must depend on the motion of such parts.

But there is no need to list any more absurdities and impossibilities in this hypothesis (however full of them it is) than the one already mentioned. For whether this thinking system is all or only part of the matter of the universe, it is impossible that any one particle should know either its own motion or that of any other particle, or that the whole should know the motion of every particle. So it cannot regulate its own thoughts or motions, or indeed have any thought resulting from such motion.

CREATION OUT OF NOTHING

Locke answers those who make matter eternal alongside God, comparing creation with voluntary motion.

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4.10.18 *Matter not coeternal with an eternal mind.*—Others would have matter to be eternal, notwithstanding that they allow an eternal, cogitative, immaterial being. This, though it take not away the being of a God, yet since it denies one and the first great piece of his workmanship, the creation, let us consider it a little. Matter must be allowed eternal. Why? because you cannot conceive how it can be made out of nothing. Why do you not also think yourself eternal? You will answer, perhaps, because about twenty or forty years since you began to be. But if I ask you what that you is, which began then to be, you can scarce tell me.

The matter, whereof you are made, began not then to be; for if it did, then it is not eternal: but it began to be put together in such a fashion and frame as makes up your body, but yet that frame of particles is not you, it makes not that thinking thing you are; (for I have now to do with one who allows an eternal, immaterial, thinking being, but would have unthinking matter eternal too) therefore when did that thinking thing begin to be? If it did never begin to be, then have you always been a thinking thing from eternity; the absurdity whereof I need not confute, till I meet with one who is so void of understanding as to own it.

If therefore you can allow a thinking thing to be made out of nothing (as all things that are not eternal must be) why also can you not allow it possible for a material being to be made out of nothing, by an equal power, but that you have the experience of the one in view, and not of the other? though, when well considered, creation of a spirit will be found to require no less power than the creation of matter.

Nay, possibly, if we would emancipate ourselves from vulgar notions, and raise our thoughts as far as they would reach, to a closer contemplation of things, we might be able to aim at some dim and seeming conception how matter might at first be made, and begin to exist by the power of that eternal first being: but to give beginning and being to a spirit, would be found a more inconceivable effect of omnipotent power.

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Matter not coeternal with an eternal mind.—Others would have matter be eternal, even though they allow an eternal, cogitative, immaterial being. This does not take away the being of a God, but it denies one of his great pieces of workmanship, and the first of them, the creation, so let us consider it a little. Matter must be granted to be eternal. Why? Because you cannot conceive how it could be made out of nothing. Then why do you not also think yourself eternal? You will perhaps answer: because you began to be about twenty or forty years ago. But if I ask you what that "you" is which began to be then, you can hardly tell me.

The matter you are made of did not begin to be then, for if it did, it is not eternal. But it began to be put together in the fashion and frame that makes up your body. Yet that frame of particles is not you; it does not make up the thinking thing you are (for I am now dealing with someone who allows an eternal, immaterial, thinking being, but would have unthinking matter be eternal too). So when did that thinking thing begin to be? If it never began to be, then you have always been a thinking thing, from eternity. I need not refute the absurdity of this until I meet someone so devoid of understanding as to own it.

If, therefore, you can allow that a thinking thing is made out of nothing (as everything that is not eternal must be), why can you not also allow that it is possible for a material being to be made out of nothing by an equal power? Is it only that you have experience of the one in view and not of the other? And yet, when well considered, the creation of a spirit will be found to require no less power than the creation of matter.

Indeed, if we would free ourselves from common notions and raise our thoughts as far as they would reach, to a closer contemplation of things, we might perhaps be able to arrive at some dim and apparent conception of how matter might at first have been made, and begun to exist, by the power of that eternal first being. But to give a be-

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But this being what would perhaps lead us too far from the notions on which the philosophy now in the world is built, it would not be pardonable to deviate so far from them; or to inquire, so far as grammar itself would authorize, if the common settled opinion opposes it: especially in this place, where the received doctrine serves well enough to our present purpose, and leaves this past doubt, that the creation or beginning of any one substance out of nothing being once admitted, the creation of all other, but the Creator himself, may, with the same ease, be supposed.

4.10.19 But you will say, is it not impossible to admit of the making any thing out of nothing, since we cannot possibly conceive it? I answer, No: 1. Because it is not reasonable to deny the power of an infinite being, because we cannot comprehend its operations. We do not deny other effects upon this ground, because we cannot possibly conceive the manner of their production.

We cannot conceive how any thing but impulse of body can move body; and yet that is not a reason sufficient to make us deny it impossible, against the constant experience we have of it in ourselves, in all our voluntary motions, which are produced in us only by the free action or thought of our own minds; and are not, nor can be the effects of the impulse or determination of the motion of blind matter in or upon our own bodies; for then it could not be in our power or choice to alter it. For example: my right hand writes, whilst my left hand is still. What causes rest in one, and motion in the other?

Nothing but my will, a thought of my mind; my thought only changing, the right hand rests, and the left hand moves. This is matter of fact, which cannot be denied. Explain this, and make it intelligible, and then the next step will be to understand creation.

For the giving a new determination to the motion of the animal spirits (which some make use of to explain voluntary motion) clears not the difficulty one jot: to alter the determination of motion being in this case no easier nor less than to give motion itself; since the new determination given to the animal spirits must be either immediately

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ginning and being to a spirit would be found a still more inconceivable effect of omnipotent power.

But since this would perhaps lead us too far from the notions on which the philosophy now current in the world is built, it would not be pardonable to depart so far from them, or to pursue the inquiry as far as grammar itself would allow, if the common settled opinion is against it. This is especially so here, where the received doctrine serves our present purpose well enough, and puts this beyond doubt: once the creation, or beginning, of any one substance out of nothing is admitted, the creation of all others except the Creator himself may be supposed with the same ease.

But, you will say, is it not impossible to admit the making of anything out of nothing, since we cannot possibly conceive it? I answer: No. 1. Because it is not reasonable to deny the power of an infinite being because we cannot comprehend its operations. We do not deny other effects on the ground that we cannot possibly conceive the manner of their production.

We cannot conceive how anything but the impulse of a body can move a body. Yet that is not reason enough to make us deny that it is possible, against the constant experience we have of it in ourselves in all our voluntary motions. These are produced in us only by the free action or thought of our own minds. They are not, and cannot be, the effects of the impulse or determination of the motion of blind matter in or on our own bodies, for then it could not be in our power or choice to alter it. For example: my right hand writes while my left hand is still. What causes rest in the one and motion in the other?

Nothing but my will, a thought of my mind. My thought alone changes, and the right hand rests and the left hand moves. This is a matter of fact that cannot be denied. Explain this and make it intelligible, and the next step will be to understand creation.

For giving a new determination to the motion of the animal spirits (which some use to explain voluntary motion) does not clear up the difficulty one bit. In this case, altering the determination of motion is no easier, and no less, than giving motion itself. For the new determination given to the animal spirits must be given either directly by

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by thought, or by some other body put in their way by thought, which was not in their way before, and so must owe its motion to thought: either of which leaves voluntary motion as unintelligible as it was before.

In the mean time it is an overvaluing ourselves to reduce all to the narrow measure of our capacities, and to conclude all things impossible to be done, whose manner of doing exceeds our comprehension. This is to make our comprehension infinite, or God finite, when what he can do is limited to what we can conceive of it. If you do not understand the operations of your own finite mind, that thinking thing within you, do not deem it strange that you cannot comprehend the operations of that eternal infinite mind, who made and governs all things, and whom the heaven of heavens cannot contain.

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thought, or by some other body that thought has put in their way which was not in their way before, and which must therefore owe its motion to thought. Either way, voluntary motion remains as unintelligible as it was before.

Meanwhile, it is overvaluing ourselves to reduce everything to the narrow measure of our capacities, and to conclude that anything whose manner of being done exceeds our comprehension cannot be done. This is to make our comprehension infinite, or God finite, when what he can do is limited to what we can conceive of it. If you do not understand the operations of your own finite mind, that thinking thing within you, do not think it strange that you cannot comprehend the operations of that eternal, infinite mind who made and governs all things, and whom the heaven of heavens cannot contain.[27]

KNOWLEDGE OF OTHER THINGS

Sensation assures us of things existing outside us, though only while they are present to our senses.

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4.11.1 *It is to be had only by sensation.*—The knowledge of our own being we have by intuition. The existence of a God reason clearly makes known to us, as has been shown.

The knowledge of the existence of any other thing we can have only by sensation: for there being no necessary connexion of real existence with any idea a man hath in his memory, nor of any other existence but that of God, with the existence of any particular man; no particular man can know the existence of any other being, but only when by actual operating upon him it makes itself perceived by him. For the having the idea of any thing in our mind no more proves the existence of that thing, than the picture of a man evidences his being in the world, or the visions of a dream make thereby a true history.

4.11.2 *Instance, whiteness of this paper.*—It is therefore the actual receiving of ideas from without, that gives us notice of the existence of other things, and makes us know that something doth exist at that time without us, which causes that idea in us, though perhaps we neither know nor consider

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It is to be had only by sensation.—We have the knowledge of our own being by intuition. The existence of a God, reason clearly makes known to us, as has been shown.

We can have the knowledge of the existence of any other thing only by sensation. For there is no necessary connection of real existence with any idea a man has in his memory, nor of any other existence but that of God with the existence of any particular man. So no particular man can know the existence of any other being except when, by actually operating on him, it makes itself perceived by him. For having the idea of anything in our mind no more proves the existence of that thing than the picture of a man proves that he is in the world, or than the visions of a dream thereby make a true history.

Instance: the whiteness of this paper.—It is therefore the actual receiving of ideas from outside that gives us notice of the existence of other things. It makes us know that something exists outside us at that time which causes that idea in us, even if we perhaps neither know nor consider how it does so.

27 "The heaven of heavens cannot contain" echoes 1 Kings 8:27.

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how it does it: for it takes not from the certainty of our senses, and the ideas we receive by them, that we know not the manner wherein they are produced, *v. g.* whilst I write this I have, by the paper affecting my eyes, that idea produced in my mind which, whatever object causes, I call white; by which I know that that quality or accident (i.

e. whose appearance before my eyes always causes that idea) doth really exist, and hath a being without me. And of this, the greatest assurance I can possibly have, and to which my faculties can attain, is the testimony of my eyes, which are the proper and sole judges of this thing, whose testimony I have reason to rely on as so certain, that I can no more doubt, whilst I write this, that I see white and black, and that something really exists, that causes that sensation in me, than that I write or move my hand: which is a certainty as great as human nature is capable of, concerning the existence of any thing but a man's self alone, and of God.

4.11.3 *This, though not so certain as demonstration, yet may be called knowledge, and proves the existence of things without us.*—The notice we have by our senses of the existing of things without us, though it be not altogether so certain as our intuitive knowledge, or the deductions of our reason, employed about the clear abstract ideas of our own minds; yet it is an assurance that deserves the name of knowledge. If we persuade ourselves that our faculties act and inform us right, concerning the existence of those objects that affect them, it cannot pass for an ill-grounded confidence: for I think nobody can, in earnest, be so sceptical as to be uncertain of the existence of those things which he sees and feels.

At least, he that can doubt so far (whatever he may have with his own thoughts) will never have any controversy with me; since he can never be sure I say any thing contrary to his own opinion. As to myself, I think God has given me assurance enough of the existence of things without me; since by their different application I can produce in myself both pleasure and pain, which is one great concernment of my present state. This is certain, the confidence that our faculties do not herein deceive us is the greatest assurance we are capable of, concerning the existence of material beings.

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For it takes nothing away from the certainty of our senses, and of the ideas we receive by them, that we do not know the manner in which they are produced. For example, while I write this, the paper affecting my eyes produces in my mind the idea which I call white, whatever object causes it. By this I know that that quality or accident (that is,

the one whose appearance before my eyes always causes that idea) really exists and has a being outside me. And the greatest assurance of this I can possibly have, and which my faculties can attain, is the testimony of my eyes, which are the proper and sole judges of this thing. I have reason to rely on their testimony as so certain that, while I write this, I can no more doubt that I see white and black, and that something really exists that causes that sensation in me, than I can doubt that I write or move my hand. This is a certainty as great as human nature is capable of concerning the existence of anything except a man's own self and God.

This, though not so certain as demonstration, may yet be called knowledge, and proves the existence of things outside us.—The notice our senses give us of the existence of things outside us is not quite as certain as our intuitive knowledge, or as the deductions of our reason employed about the clear abstract ideas of our own minds. Yet it is an assurance that deserves the name of knowledge. If we persuade ourselves that our faculties act and inform us correctly concerning the existence of the objects that affect them, this cannot pass for an ill-grounded confidence. For I think nobody can seriously be so skeptical as to be uncertain of the existence of the things he sees and feels.

At least, whoever can doubt that far (whatever dispute he may have with his own thoughts) will never have any controversy with me, since he can never be sure that I say anything contrary to his own opinion. As for myself, I think God has given me assurance enough of the existence of things outside me, since by applying them in different ways I can produce both pleasure and pain in myself, which is one great concern of my present state. This much is certain: the confidence that our faculties do not deceive us here is the greatest assurance we are capable of concerning the existence of material beings.

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For we cannot act any thing but by our faculties; nor talk of knowledge itself, but by the helps of those faculties which are fitted to apprehend even what knowledge is. But besides the assurance we have from our senses themselves, that they do not err in the information they give us, of the existence of things without us, when they are affected by them, we are farther confirmed in this assurance by other concurrent reasons.

4.11.4 1. *Because we cannot have them but by the inlet of the senses.*—First, it is plain those perceptions are produced in us by exterior causes affecting our senses: because those that want the organs of any sense never can have the ideas belonging to that sense produced in their minds. This is too evident to be doubted: and therefore we cannot but be assured that they come in by the organs of that sense, and no other way.

The organs themselves, it is plain, do not produce them; for then the eyes of a man in the dark would produce colours, and his nose smell roses in the winter: but we see nobody gets the relish of a pine-apple till he goes to the Indies, where it is, and tastes it.

4.11.5 2. *Because an idea from actual sensation, and another from memory, are very distinct perceptions.*—Secondly, because sometimes I find that I cannot avoid the having those ideas produced in my mind. For though when my eyes are shut, or windows fast, I can at pleasure recall to my mind the ideas of light, or the sun, which former sensations had lodged in my memory; so I can at pleasure lay by that idea, and take into my view that of the smell of a rose, or taste of sugar. But if I turn my eyes at noon towards the sun, I cannot avoid the ideas which the light, or sun, then produces in me.

So that there is a manifest difference between the ideas laid up in my memory (over which, if they were there only, I should have constantly the same power to dispose of them, and lay them by at pleasure) and those which force themselves upon me, and I cannot avoid having. And therefore it must needs be some exterior cause, and the brisk acting of some objects without me, whose efficacy I cannot resist, that produces those ideas in my mind, whether I will or no.

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For we cannot do anything except by our faculties, nor even talk of knowledge itself except with the help of those faculties which are fitted to apprehend even what knowledge is. But besides the assurance we have from our senses themselves that they do not err in the information they give us of the existence of things outside us when they are affected by them, we are further confirmed in this assurance by other concurring reasons.

1. *Because we cannot have them except through the inlet of the senses.*—First, it is plain that those perceptions are produced in us by external causes affecting our senses, because those who lack the organs of any sense can never have the ideas belonging to that sense produced in their minds. This is too evident to be doubted, and so we cannot help being assured that they come in by the organs of that sense, and in no other way.

It is plain that the organs themselves do not produce them; for then a man's eyes would produce colors in the dark, and his nose would smell roses in winter. But we see that nobody gets the taste of a pineapple until he goes to the Indies, where it is found, and tastes it.

2. *Because an idea from actual sensation and one from memory are very distinct perceptions.*—Second, because I sometimes find that I cannot avoid having those ideas produced in my mind. When my eyes are shut, or the windows are closed, I can recall to my mind at will the ideas of light, or of the sun, which earlier sensations had lodged in my memory. And I can put that idea aside at will and take into view the idea of the smell of a rose, or the taste of sugar. But if I turn my eyes toward the sun at noon, I cannot avoid the ideas that the light, or the sun, then produces in me.

So there is an obvious difference between the ideas stored in my memory (over which, if they were only there, I would always have the same power to dispose of them and set them aside at will) and those which force themselves on me and which I cannot avoid having. Therefore it must be some external cause, the brisk action of some objects outside me whose efficacy I cannot resist, that produces those ideas in my mind whether I want them or not.

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Besides, there is nobody who doth not perceive the difference in himself between contemplating the sun, as he hath the idea of it in his memory, and actually looking upon it; of which two his perception is so distinct, that few of his ideas are more distinguishable one from another. And therefore he hath certain knowledge, that they are not both memory, or the actions of his mind, and fancies only within him; but that actual seeing hath a cause without.

4.11.6 3. *Pleasure or pain which accompanies actual sensation, accompanies not the returning of those ideas without the external objects.*—Thirdly, add to this, that many of those ideas are produced in us with pain, which afterward we remember without the least offence. Thus the pain of heat or cold, when the idea of it is revived in our minds, gives us no disturbance; which, when felt, was very troublesome, and is again, when actually repeated; which is occasioned by the disorder the external object causes in our bodies when applied to it.

And we remember the pains of hunger, thirst, or the headach, without any pain at all; which would either never disturb us, or else constantly do it, as often as we thought of it, were there nothing more but ideas floating in our minds, and appearances entertaining our fancies, without the real existence of things affecting us from abroad. The same may be said of pleasure accompanying several actual sensations, and though mathematical demonstrations depend not upon sense, yet the examining them by diagrams gives great credit to the evidence of our sight, and seems to give it a certainty approaching to that of demonstration itself.

For it would be very strange that a man should allow it for an undeniable truth, that two angles of a figure, which he measures by lines and angles of a diagram, should be bigger one than the other; and yet doubt of the existence of those lines and angles, which by looking on he makes use of to measure that by.

4.11.7 4. *Our senses assist one another's testimony of the existence of outward things.*—Fourthly, our senses in many cases bear witness to the truth of each other's report, concerning the existence of sensible things without us. He that sees a fire

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Besides, everyone perceives in himself the difference between contemplating the sun as he has the idea of it in his memory and actually looking at it. His perception of these two is so distinct that few of his ideas are more distinguishable from one another. And so he has certain knowledge that they are not both memory, or actions of his mind, and fancies merely within him, but that actual seeing has a cause outside him.

3. *The pleasure or pain that accompanies actual sensation does not accompany the return of those ideas without the external objects.*—Third, add to this that many of those ideas are produced in us with pain, and yet afterward we remember them without the least discomfort. Thus the pain of heat or cold, when the idea of it is revived in our minds, gives us no disturbance, though when felt it was very troublesome, and is so again when it is actually repeated. This is caused by the disorder the external object produces in our bodies when applied to them.

And we remember the pains of hunger, thirst, or headache without any pain at all. If there were nothing more than ideas floating in our minds and appearances entertaining our fancies, without the real existence of things affecting us from outside, these pains would either never disturb us, or else disturb us constantly, as often as we thought of them. The same may be said of the pleasure that accompanies various actual sensations. And although mathematical demonstrations do not depend on sense, examining them by diagrams gives great credit to the evidence of our sight, and seems to give it a certainty approaching that of demonstration itself.

For it would be very strange for a man to accept as an undeniable truth that one of two angles of a figure, which he measures by the lines and angles of a diagram, is bigger than the other, and yet to doubt the existence of those lines and angles which he uses, by looking at them, to measure it.

4. *Our senses support one another's testimony of the existence of outward things.*—Fourth, in many cases our senses bear witness to the truth of each other's report concerning the existence of sensible things outside us. Someone who sees a fire may, if he

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may, if he doubt whether it be any thing more than a bare fancy, feel it too; and be convinced by putting his hand in it: which certainly could never be put into such exquisite pain by a bare idea or phantom, unless that the pain be a fancy too, which yet he cannot, when the burn is well, by raising the idea of it, bring upon himself again.

Thus I see, whilst I write this, I can change the appearance of the paper: and by designing the letters tell beforehand what new idea it shall exhibit the very next moment, by barely drawing my pen over it: which will neither appear (let me fancy as much as I will) if my hands stand still; or though I move my pen, if my eyes be shut: nor, when those characters are once made on the paper, can I choose afterward but see them as they are: that is, have the ideas of such letters as I have made.

Whence it is manifest, that they are not barely the sport and play of my own imagination, when I find that the characters that were made at the pleasure of my own thought, do not obey them; nor yet cease to be, whenever I shall fancy it; but continue to affect the senses constantly and regularly, according to the figures I made them.

To which if we will add, that the sight of those shall, from another man, draw such sounds as I beforehand design they shall stand for; there will be little reason left to doubt that those words I write do really exist without me, when they cause a long series of regular sounds to affect my ears, which could not be the effect of my imagination, nor could my memory retain them in that order.

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doubts whether it is anything more than a mere fancy, feel it too, and be convinced by putting his hand into it. His hand certainly could never be put into such exquisite pain by a mere idea or phantom, unless the pain is a fancy too; and yet, once the burn has healed, he cannot bring that pain on himself again by raising the idea of it.

Thus I see that, while I write this, I can change the appearance of the paper, and, by planning the letters, tell beforehand what new idea it will present the very next moment, simply by drawing my pen over it. That idea will not appear (however much I may imagine it) if my hands stay still, or, even if I move my pen, if my eyes are shut. Nor, once those characters are made on the paper, can I afterward choose but see them as they are, that is, have the ideas of the letters I have made.

From this it is obvious that they are not merely the sport and play of my own imagination, when I find that the characters made at the pleasure of my own thoughts do not obey them, nor cease to be whenever I may fancy it, but continue to affect the senses constantly and regularly, according to the shapes I gave them.

If we add to this that the sight of them will draw from another man just the sounds I intended beforehand that they should stand for, there will be little reason left to doubt that the words I write really exist outside me. For they cause a long series of regular sounds to affect my ears, which could not be the effect of my imagination, nor could my memory retain them in that order.

IF ALL IS A DREAM

Locke answers the skeptical dreamer: our certainty is as great as our condition needs.

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4.11.8 *This certainty is as great as our condition needs.*—But yet, if after all this any one will be so sceptical as to distrust his senses, and to affirm that all we see and hear, feel and taste, think and do, during our whole being, is but the series and deluding appearances of a long dream, whereof there is no reality; and therefore will question the existence of all things, or our knowledge of any thing; I must desire him to consider, that, if all be a dream, then he doth but dream that he makes the

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This certainty is as great as our condition needs.—But suppose that, after all this, someone is so skeptical as to distrust his senses. He affirms that all we see and hear, feel and taste, think and do during our whole existence is only the series of deluding appearances of a long dream, with no reality in it, and therefore questions the existence of all things, or our knowledge of anything. I must ask him to consider this: if all is a dream, then he only dreams that he raises the question, and so it does

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question; and so it is not much matter that a waking man should answer him.

But yet, if he pleases, he may dream that I make him this answer, that the certainty of things existing in *rerum natura*, when we have the testimony of our senses for it, is not only as great as our frame can attain to, but as our condition needs. For our faculties being suited not to the full extent of being, nor to a perfect, clear, comprehensive knowledge of things, free from all doubt and scruple; but to the preservation of us, in whom they are, and accommodated to the use of life; they serve to our purpose well enough, if they will but give us certain notice of those things which are convenient or inconvenient to us.

For he that sees a candle burning, and hath experimented the force of its flame, by putting his finger in it, will little doubt that this is something existing without him, which does him harm, and puts him to great pain: which is assurance enough, when no man requires greater certainty to govern his actions by than what is as certain as his actions themselves. And if our dreamer pleases to try whether the glowing heat of a glass furnace be barely a wandering imagination in a drowsy man's fancy; by putting his hand into it he may perhaps be wakened into a certainty greater than he could wish, that it is something more than bare imagination.

So that this evidence is as great as we can desire, being as certain to us as our pleasure or pain, *i. e.* happiness or misery; beyond which we have no concernment, either of knowing or being. Such an assurance of the existence of things without us is sufficient to direct us in the attaining the good, and avoiding the evil, which is caused by them; which is the important concernment we have of being made acquainted with them.

4.11.9 *But reaches no farther than actual sensation.*—In fine, then, when our senses do actually convey into our understandings any idea, we cannot but be satisfied that there doth something at that time really exist without us, which doth affect our senses, and by them give notice of itself to our apprehensive faculties, and actually produce that idea which we then perceive: and we cannot so far distrust their testimony as to doubt, that such

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not much matter whether a waking man answers him.

Still, if he likes, he may dream that I give him this answer: the certainty of things existing *in rerum natura*, when we have the testimony of our senses for it, is not only as great as our constitution can attain, but as great as our condition needs. For our faculties are suited not to the full extent of being, nor to a perfect, clear, comprehensive knowledge of things, free from all doubt and scruple, but to the preservation of us in whom they are, and they are adapted to the uses of life. So they serve our purpose well enough if only they give us certain notice of the things that are convenient or inconvenient to us.[28]

For someone who sees a candle burning, and has tested the force of its flame by putting his finger in it, will hardly doubt that this is something existing outside him which does him harm and puts him in great pain. That is assurance enough, since no one requires greater certainty to govern his actions by than what is as certain as his actions themselves. And if our dreamer would like to test whether the glowing heat of a glass furnace is merely a wandering imagination in a drowsy man's fancy, by putting his hand into it he may perhaps be awakened into a certainty, greater than he could wish, that it is something more than mere imagination.

So this evidence is as great as we can desire, being as certain to us as our pleasure or pain, that is, our happiness or misery, beyond which we have no concern either in knowing or in being. Such an assurance of the existence of things outside us is enough to direct us in obtaining the good and avoiding the evil that they cause, and that is the important concern we have in being made acquainted with them.

But it reaches no further than actual sensation.—In short, then, when our senses actually convey any idea into our understandings, we cannot help being satisfied that something really exists outside us at that time. It affects our senses, makes itself known through them to our faculties of apprehension, and actually produces the idea we then perceive. And we cannot distrust their testimony so

28 Latin: "in the nature of things," that is, in reality.

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collections of simple ideas, as we have observed by our senses to be united together, do really exist together. But this knowledge extends as far as the present testimony of our senses, employed about particular objects that do then affect them, and no farther.

For if I saw such a collection of simple ideas, as is wont to be called man, existing together one minute since, and am now alone, I cannot be certain that the same man exists now, since there is no necessary connexion of his existence a minute since with his existence now: by a thousand ways he may cease to be, since I had the testimony of my senses for his existence.

And if I cannot be certain that the man I saw last to-day is now in being, I can less be certain that he is so, who hath been longer removed from my senses, and I have not seen since yesterday, or since the last year: and much less can I be certain of the existence of men that I never saw.

And therefore, though it be highly probable that millions of men do now exist, yet, whilst I am alone writing this, I have not that certainty of it which we strictly call knowledge; though the great likelihood of it puts me past doubt, and it be reasonable for me to do several things upon the confidence that there are men (and men also of my acquaintance, with whom I have to do) now in the world: but this is but probability, not knowledge.

4.11.10 *Folly to expect demonstration in every thing.*— Whereby yet we may observe, how foolish and vain a thing it is for a man of a narrow knowledge, who having reason given him to judge of the different evidence and probability of things, and to be swayed accordingly; how vain, I say, it is to expect demonstration and certainty in things not capable of it, and refuse assent to very rational propositions, and act contrary to very plain and clear truths, because they cannot be made out so evident as to surmount every (I will not say reason but) pretence of doubting.

He that in the ordinary affairs of life would admit of nothing but direct plain demonstration, would be sure of nothing in this world, but of perishing quickly. The wholesomeness of his meat or drink would not give him reason to venture on it: and I

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far as to doubt that such collections of simple ideas as we have observed by our senses to be united together really do exist together. But this knowledge extends as far as the present testimony of our senses, employed about particular objects that are then affecting them, and no further.

For suppose I saw such a collection of simple ideas as is usually called a man existing together a minute ago, and am now alone. I cannot be certain that the same man exists now, since there is no necessary connection between his existence a minute ago and his existence now. He may have ceased to be in a thousand ways since I had the testimony of my senses for his existence.

And if I cannot be certain that the man I saw last today is now in being, I can be still less certain of one who has been removed from my senses longer, whom I have not seen since yesterday, or since last year. And I can be much less certain of the existence of men I have never seen.

And therefore, though it is highly probable that millions of men exist now, yet, while I am alone writing this, I do not have that certainty of it which we strictly call knowledge. Its great likelihood does put it beyond doubt for me, and it is reasonable for me to do many things in the confidence that there are men now in the world (and men of my acquaintance, too, with whom I have dealings). But this is only probability, not knowledge.

Folly to expect demonstration in everything.—From this we may observe how foolish and vain a thing it is for a man of narrow knowledge, who has been given reason to judge the different evidence and probability of things and to be swayed accordingly —how vain, I say, it is for him to expect demonstration and certainty in things not capable of it. It is vain to refuse assent to very rational propositions, and to act contrary to very plain and clear truths, because they cannot be made so evident as to overcome every (I will not say reason, but) pretense of doubting.

Someone who, in the ordinary affairs of life, would admit nothing but direct, plain demonstration would be sure of nothing in this world except perishing quickly. The wholesomeness of his food or drink would not give him reason to venture on

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would fain know, what it is he could do upon such grounds as are capable of no doubt, no objection.

4.11.11 *Past existence is known by memory.*—As when our senses are actually employed about any object, we do know that it does exist; so by our memory we may be assured, that heretofore things that affected our senses have existed. And thus we have knowledge of the past existence of several things, whereof our senses having informed us, our memories still retain the ideas; and of this we are past all doubt, so long as we remember well. But this knowledge also reaches no farther than our senses have formerly assured us.

Thus seeing water at this instant, it is an unquestionable truth to me that water doth exist: and remembering that I saw it yesterday, it will also be always true, and, as long as my memory retains it, always an undoubted proposition to me, that water did exist on the 10th of July 1688, as it will also be equally true, that a certain number of very fine colours did exist, which at the same time I saw upon a bubble of that water:

but, being now quite out of the sight both of the water and bubbles too, it is no more certainly known to me that the water doth now exist, than that the bubbles or colours therein do so; it being no more necessary that water should exist to-day, because it existed yesterday, than that the colours or bubbles exist to-day because they existed yesterday; though it be exceedingly much more probable, because water hath been observed to continue long in existence, but bubbles and the colours on them quickly cease to be.

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it; and I would like to know what he could do on grounds that allow no doubt and no objection.

Past existence is known by memory.—Just as, when our senses are actually employed about any object, we know that it exists, so by our memory we may be assured that things which affected our senses in the past have existed. And so we have knowledge of the past existence of various things, of which our senses have informed us and whose ideas our memories still retain; and of this we are beyond all doubt as long as we remember well. But this knowledge also reaches no further than our senses have previously assured us.

Thus, seeing water at this instant, it is an unquestionable truth to me that water exists. And remembering that I saw it yesterday, it will also always be true, and, as long as my memory retains it, always an undoubted proposition to me, that water existed on July 10, 1688. It will be equally true that a certain number of very fine colors existed, which I saw at the same time on a bubble of that water;

but, being now quite out of sight of both the water and the bubbles, I know no more certainly that the water exists now than that the bubbles, or the colors on them, do. For it is no more necessary that water should exist today because it existed yesterday than that the colors or bubbles should exist today because they existed yesterday. It is, however, vastly more probable, because water has been observed to continue in existence for a long time, while bubbles and the colors on them quickly cease to be.

SPIRITS AND GENERAL TRUTHS

The existence of finite spirits is a matter of faith, while propositions about abstract ideas are eternal truths.

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4.11.12 *The existence of spirits not knowable.*—What ideas we have of spirits, and how we come by them, I have already shown. But though we have those ideas in our minds, and know we have them there, the having the ideas of spirits does not make us know that any such things do exist without us, or that there are any finite spirits, or any other spiritual beings but the eternal God. We have ground from revelation, and several other reasons, to believe with assurance that there are such creatures: but, our senses not being able to

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The existence of spirits cannot be known.—I have already shown what ideas we have of spirits and how we come by them. But though we have those ideas in our minds, and know we have them there, having ideas of spirits does not make us know that any such things exist outside us, or that there are any finite spirits, or any spiritual beings other than the eternal God. We have grounds from revelation, and several other reasons, to believe with assurance that there are such creatures. But since

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discover them, we want the means of knowing their particular existences.

For we can no more know, that there are finite spirits really existing, by the idea we have of such beings in our minds, than by the ideas any one has of fairies, or centaurs, he can come to know that things answering those ideas do really exist.

And therefore concerning the existence of finite spirits, as well as several other things, we must content ourselves with the evidence of faith; but universal certain propositions concerning this matter are beyond our reach. For however true it may be, *v. g.* that all the intelligent spirits that God ever created do still exist; yet it can never make a part of our certain knowledge. These and the like propositions we may assent to as highly probable, but are not, I fear, in this state capable of knowing.

We are not then to put others upon demonstrating, nor ourselves upon search of universal certainty, in all those matters, wherein we are not capable of any other knowledge, but what our senses give us in this or that particular.

4.11.13 *Particular propositions concerning existence are knowable.*—By which it appears, that there are two sorts of propositions, 1. There is one sort of propositions concerning the existence of any thing answerable to such an idea: as having the idea of an elephant, phoenix, motion, or an angel, in my mind, the first and natural inquiry is, whether such a thing does any where exist? And this knowledge is only of particulars. No existence of any thing without us, but only of God, can certainly be known farther than our senses inform us. 2. There is another sort of propositions, wherein is expressed the agreement or disagreement of our abstract ideas, and their dependence on one another. Such propositions may be universal and certain.

So having the idea of God and myself, of fear and obedience, I cannot but be sure that God is to be feared and obeyed by me; and this proposition will be certain, concerning man in general, if I have made an abstract idea of such a species, whereof I am one particular. But yet this proposition, how certain soever, that men ought to fear and obey God, proves not to me the existence of men in the world, but will be true of all such creatures, whenever they do exist: which

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our senses cannot discover them, we lack the means of knowing their particular existences.

For the idea of such beings in our minds can no more tell us that finite spirits really exist than anyone's ideas of fairies or centaurs can tell him that things answering those ideas really exist.

And therefore, concerning the existence of finite spirits, as well as several other things, we must content ourselves with the evidence of faith; universal certain propositions on this matter are beyond our reach. For however true it may be, for example, that all the intelligent spirits God ever created still exist, it can never be part of our certain knowledge. We may assent to these and similar propositions as highly probable, but I fear that in this state we are not capable of knowing them.

We should not, then, require others to demonstrate, nor set ourselves to search for universal certainty, in any of those matters in which we are capable of no other knowledge than what our senses give us in this or that particular case.

Particular propositions concerning existence can be known.—From this it appears that there are two sorts of propositions. 1. One sort concerns the existence of anything answering to a given idea. For example, having the idea of an elephant, a phoenix, motion, or an angel in my mind, the first and natural question is whether such a thing exists anywhere. And this knowledge is only of particulars. Apart from God alone, the existence of nothing outside us can be certainly known beyond what our senses tell us. 2. Another sort of propositions expresses the agreement or disagreement of our abstract ideas and their dependence on one another. Such propositions may be universal and certain.

So, having the idea of God and of myself, of fear and of obedience, I cannot help being sure that God is to be feared and obeyed by me. And this proposition will be certain concerning man in general if I have made an abstract idea of such a species, of which I am one particular member. But this proposition, however certain—that men ought to fear and obey God—does not prove to me that there are men in the world. It will simply be true

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certainty of such general propositions, depends on the agreement or disagreement to be discovered in those abstract ideas.

4.11.14 *And general propositions concerning abstract ideas.*— In the former case, our knowledge is the consequence of the existence of things producing ideas in our minds by our senses: in the latter knowledge is the consequence of the ideas (be they what they will) that are in our minds, producing there general certain propositions. Many of these are called *æternæ veritates*, and all of them indeed are so; not from being written all or any of them in the minds of all men, or that they were any of them propositions in one's mind till he, having got the abstract ideas, joined or separated them by affirmation or negation.

But wheresoever we can suppose such a creature as man is, endowed with such faculties, and thereby furnished with such ideas as we have, we must conclude, he must needs, when he applies his thoughts to the consideration of his ideas, know the truth of certain propositions, that will arise from the agreement or disagreement which he will perceive in his own ideas. Such propositions are therefore called eternal truths, not because they are eternal propositions actually formed.

and antecedent to the understanding, that at any time makes them; nor because they are imprinted on the mind from any patterns, that are anywhere out of the mind, and existed before: but because being once made about abstract ideas, so as to be true, they will whenever they can be supposed to be made again at any time past or to come, by a mind having those ideas, always actually be true. For names being supposed to stand perpetually for the same ideas, and the same ideas having immutably the same habitudes one to another, propositions concerning any abstract ideas, that are once true, must needs be eternal verities.

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of all such creatures whenever they do exist. The certainty of such general propositions depends on the agreement or disagreement to be discovered in those abstract ideas.

And general propositions concerning abstract ideas.— In the former case, our knowledge is the consequence of the existence of things producing ideas in our minds through our senses. In the latter, knowledge is the consequence of the ideas (whatever they may be) that are in our minds, producing general certain propositions there. Many of these are called *æternæ veritates*, eternal truths, and indeed all of them are. This is not because all or any of them are written in the minds of all men. Nor is it because any of them was a proposition in anyone's mind until he got the abstract ideas and joined or separated them by affirmation or negation.

But wherever we can suppose such a creature as man is, endowed with such faculties and thereby furnished with such ideas as we have, we must conclude that, when he applies his thoughts to considering his ideas, he must know the truth of certain propositions. These will arise from the agreement or disagreement he perceives in his own ideas. Such propositions are therefore called eternal truths, not because they are eternal propositions actually formed

and existing prior to the understanding that at any time makes them. Nor is it because they are imprinted on the mind from some patterns that are somewhere outside the mind and existed before. It is because, once they have been made about abstract ideas so as to be true, they will always actually be true whenever they can be supposed to be made again, at any time past or to come, by a mind that has those ideas. For names are supposed always to stand for the same ideas, and the same ideas always have the same unchanging relations to one another. So propositions about any abstract ideas that are once true must be eternal truths.

THE IMPROVEMENT OF KNOWLEDGE

Knowledge grows from clear ideas and intermediate proofs, not from maxims or borrowed principles.

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4.12.1	*Knowledge is not from maxims.*—It having been the common received opinion among men of letters, that maxims were the foundation of all knowledge; and that the sciences were each of them built upon certain præcognita, from whence the understanding was to take its rise, and by which it was to conduct itself, in its inquiries into the matters belonging to that science; the beaten road of the schools has been, to lay down in the beginning one or more general propositions, as foundations whereon to build the knowledge that was to be had of that subject. These doctrines, thus laid down for foundations of any science, were called principles, as the beginnings from which we must set out, and look no farther backwards in our inquiries, as we have already observed.	*Knowledge does not come from maxims.*—It has been the commonly received opinion among men of learning that maxims are the foundation of all knowledge. Each of the sciences, they held, is built on certain *praecognita* (things known in advance), from which the understanding was to set out and by which it was to guide itself in its inquiries into the matters belonging to that science. So the well-worn road of the schools has been to lay down at the beginning one or more general propositions as foundations on which to build the knowledge to be had of that subject. These doctrines, laid down in this way as foundations of a science, were called principles, as being the beginnings from which we must set out, looking no further back in our inquiries, as we have already observed.
4.12.2	(*The occasion of that opinion.*)—One thing which might probably give an occasion in this way of proceeding in other sciences, was (as I suppose) the good success it seemed to have in mathematics, wherein men being observed to attain a great certainty of knowledge, these sciences came by pre-eminence to be called μαθήματα, and μάθησις, learning, or things learned, thoroughly learned, as having of all others the greatest certainty, clearness, and evidence in them.	(*What gave rise to that opinion.*)—One thing that probably gave rise to this way of proceeding in other sciences was, I suppose, the success it seemed to have in mathematics. Men were seen to attain great certainty of knowledge there, and so these sciences came to be called, by pre-eminence, *mathēmata* and *mathēsis*—learning, or things learned, thoroughly learned—as having the greatest certainty, clearness, and evidence of all.
4.12.3	*But from the comparing clear and distinct ideas.*—But if any one will consider, he will (I guess) find, that the great advancement and certainty of real knowledge, which men arrived to in these sciences, was not owing to the influence of these principles, nor derived from any peculiar advantage they received from two or three general maxims, laid down in the beginning; but from the clear, distinct, complete ideas their thoughts were employed about, and the relation of equality and excess so clear between some of them, that they had an intuitive knowledge, and by that a way to discover it in others, and this without the help of those maxims. For I ask, is it not possible for a young lad to know, that his whole body is bigger than his little	*But from comparing clear and distinct ideas.*—But anyone who considers it will, I think, find that the great advancement and certainty of real knowledge that men reached in these sciences was not owing to the influence of these principles. Nor was it derived from any special advantage they got from two or three general maxims laid down at the beginning. It came from the clear, distinct, complete ideas their thoughts were occupied with. It also came from the relation of equality and excess, which was so clear between some of these ideas that they had an intuitive knowledge of it, and through that a way to discover it in others—and all this without the help of those maxims. For I ask: is it impossible for a young boy to know that his whole body is bigger than his little finger

finger, but by virtue of this axiom, that the whole is bigger than a part; nor be assured of it, till he has learned that maxim? Or cannot a country wench know, that having received a shilling from one that owes her three, and a shilling also from another that owes her three, the remaining debts in each of their hands are equal? Cannot she know this, I say, unless she fetch the certainty of it from this maxim, that if you take equals from equals, the remainder will be equals, a maxim which possibly she never heard or thought of?

I desire any one to consider, from what has been elsewhere said, which is known first and clearest by most people, the particular instance, or the general rule; and which it is that gives life and birth to the other? These general rules are but the comparing our more general and abstract ideas, which are the workmanship of the mind made, and names given to them, for the easier despatch in its reasonings, and drawing into comprehensive terms, and short rules, its various and multiplied observations.

But knowledge began in the mind, and was founded on particulars; though afterward, perhaps no notice be taken thereof: it being natural for the mind (forward still to enlarge its knowledge) most attentively to lay up those general notions, and make the proper use of them, which is to disburden the memory of the cumbersome load of particulars.

For I desire it may be considered what more certainty there is to a child, or any one, that his body, little finger and all, is bigger than his little finger alone, after you have given to his body the name whole, and to his little finger the name part, than he could have had before; or what new knowledge concerning his body can these two relative terms give him, which he could not have without them? Could he not know that his body was bigger than his little finger, if his language were yet so imperfect, that he had no such relative terms as whole and part?

I ask farther, when he has got these names, how is he more certain that his body is a whole, and his little finger a part, than he was or might be certain, before he learnt those terms, that his body was bigger than his little finger? Any one may as reasonably doubt or deny that his little finger is a part of his body, as that it is less than

except by virtue of the axiom that the whole is bigger than a part? Can he not be sure of it until he has learned that maxim? Or take a country girl who has received a shilling from someone who owes her three, and a shilling also from another who owes her three. Can she not know that the remaining debts of each are equal? Can she not know this, I say, unless she fetches its certainty from the maxim that if you take equals from equals the remainders will be equal—a maxim she has perhaps never heard of or thought about?

I ask anyone to consider, in light of what has been said elsewhere, which is known first and most clearly by most people—the particular instance or the general rule—and which of them gives life and birth to the other. These general rules are nothing but comparisons of our more general and abstract ideas. Those ideas are the workmanship of the mind, made and given names for the easier dispatch of its reasonings, and for gathering its many and varied observations into comprehensive terms and short rules.

But knowledge began in the mind and was founded on particulars, though perhaps no notice is taken of this afterward. For it is natural for the mind (always eager to enlarge its knowledge) to store up those general notions with great care and to make the proper use of them, which is to relieve the memory of the cumbersome load of particulars.

For I ask you to consider this. Suppose you have given a child's body the name whole and his little finger the name part. What more certainty does he, or anyone, then have that his body, little finger and all, is bigger than his little finger alone, than he could have had before? Or what new knowledge about his body can these two relative terms give him that he could not have without them? Could he not know that his body was bigger than his little finger if his language were still so imperfect that he had no such relative terms as whole and part?

I ask further: when he has got these names, how is he any more certain that his body is a whole and his little finger a part than he was, or might have been, before he learned those terms, that his body was bigger than his little finger? Anyone may as reasonably doubt or deny that his little finger is a part of his body as that it is smaller than his body.

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his body. And he that can doubt whether it be less, will as certainly doubt whether it be a part.

So that the maxim, the whole is bigger than a part, can never be made use of to prove the little finger less than the body, but when it is useless, by being brought to convince one of a truth which he knows already. For he that does not certainly know that any parcel of matter with another parcel of matter joined to it, is bigger than either of them alone, will never be able to know it by the help of these two relative terms whole and part, make of them what maxim you please.

4.12.4 *Dangerous to build upon precarious principles.*—But be it in the mathematics as it will, whether it be clearer, that taking an inch from a black line of two inches, and an inch from a red line of two inches, the remaining parts of the two lines will be equal, or that if you take equals from equals, the remainder will be equals: which, I say, of these two is the clearer and first known, I leave it to any one to determine, it not being material to my present occasion.

That which I have here to do, is to inquire, whether if it be the readiest way to knowledge to begin with general maxims, and build upon them, it be yet a safe way to take the principles which are laid down in any other science as unquestionable truths; and so receive them without examination, and adhere to them, without suffering them to be doubted of, because mathematicians have been so happy, or so fair, to use none but self-evident and undeniable. If this be so, I know not what may not pass for truth in morality, what may not be introduced and proved in natural philosophy.

Let that principle of some of the philosophers, that all is matter, and that there is nothing else, be received for certain and indubitable, and it will be easy to be seen, by the writings of some that have revived it again in our days, what consequences it will lead us into. Let any one, with Polemo, take the world; or with the stoics, the æther, or the sun; or with Anaximenes, the air, to be God; and what a divinity, religion, and worship must we needs have! Nothing can be so dangerous as principles thus taken up without questioning or examination; especially if they be

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And whoever can doubt whether it is smaller will just as surely doubt whether it is a part.

So the maxim that the whole is bigger than a part can never be used to prove the little finger smaller than the body except when it is useless, because it is brought in to convince someone of a truth he already knows. For whoever does not know for certain that any parcel of matter with another parcel of matter joined to it is bigger than either of them alone will never be able to know it with the help of these two relative terms, whole and part, make whatever maxim of them you please.

It is dangerous to build on shaky principles.—But let it be as it will in mathematics. Take an inch from a black line two inches long and an inch from a red line two inches long. Is it clearer that the remaining parts of the two lines will be equal, or that if you take equals from equals the remainders will be equal? Which of these two, I say, is clearer and known first, I leave to anyone to decide, since it does not matter for my present purpose.

What I have to do here is to inquire into something else. Suppose the readiest way to knowledge is to begin with general maxims and build on them. Is it nevertheless a safe way to take the principles laid down in any other science as unquestionable truths? Should we accept them without examination and hold to them without allowing them to be doubted, just because mathematicians have been so fortunate, or so fair, as to use none but self-evident and undeniable ones? If so, I do not know what may not pass for truth in morality, or what may not be introduced and proved in natural philosophy.

Let that principle of some philosophers, that all is matter and there is nothing else, be accepted as certain and beyond doubt. It will then be easy to see, from the writings of some who have revived it in our own day, what consequences it will lead us into. Let anyone take the world to be God, with Polemo; or the ether, or the sun, with the Stoics; or the air, with Anaximenes—and what a theology, religion, and worship we must have! Nothing can be as dangerous as principles taken up like this without questioning or examination. This is especially so if they concern morality, which influ-

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such as concern morality, which influence men's lives, and give a bias to all their actions.

Who might not justly expect another kind of life in Aristippus, who placed happiness in bodily pleasure; and in Antisthenes, who made virtue sufficient to felicity? And he who, with Plato, shall place beatitude in the knowledge of God, will have his thoughts raised to other contemplations than those who look not beyond this spot of earth, and those perishing things which are to be had in it. He that, with Archelaus, shall lay it down as a principle, that right and wrong, honest and dishonest, are defined only by laws, and not by nature, will have other measures of moral rectitude and pravity than those who take it for granted, that we are under obligations antecedent to all human constitutions.

4.12.5 *This is no certain way to truth.*—If therefore those that pass for principles are not certain (which we must have some way to know, that we may be able to distinguish them from those that are doubtful) but are only made so to us by our blind assent, we are liable to be misled by them; and instead of being guided into truth, we shall, by principles, be only confirmed in mistake and error.

4.12.6 *But to compare clear complete ideas under steady names.*—But since the knowledge of the certainty of principles, as well as of all other truths, depends only upon the perception we have of the agreement or disagreement of our ideas, the way to improve our knowledge is not, I am sure, blindly, and with an implicit faith, to receive and swallow principles; but is, I think, to get and fix in our minds clear, distinct, and complete ideas, as far as they are to be had, and annex to them proper and constant names.

And thus, perhaps, without any other principles but barely considering those ideas, and by comparing them one with another, finding their agreement and disagreement, and their several relations and habitudes; we shall get more true and clear knowledge, by the conduct of this one

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ences men's lives and gives a bias to all their actions.[29]

Who would not rightly expect a different kind of life from Aristippus, who placed happiness in bodily pleasure, than from Antisthenes, who held virtue sufficient for happiness? And whoever, with Plato, places blessedness in the knowledge of God will have his thoughts raised to other contemplations than those of people who look no further than this spot of earth and the perishing things to be had in it. Whoever, with Archelaus, lays it down as a principle that right and wrong, honest and dishonest, are defined only by laws and not by nature will have different measures of moral rightness and depravity. They will differ from those of people who take it for granted that we are under obligations prior to all human institutions.[30]

This is no certain way to truth.—Suppose, then, that what passes for principles is not certain, but is made so to us only by our blind assent. (We must have some way of knowing whether they are certain, so that we can tell them apart from doubtful ones.) In that case we are liable to be misled by them. Instead of being guided into truth, we shall only be confirmed in mistake and error by our principles.

But to compare clear, complete ideas under steady names.—The knowledge of the certainty of principles, like that of all other truths, depends only on our perception of the agreement or disagreement of our ideas. So the way to improve our knowledge is not, I am sure, to receive and swallow principles blindly, with implicit faith. It is, I think, to get and fix in our minds clear, distinct, and complete ideas, as far as they can be had, and to attach proper and constant names to them.

And in this way, perhaps, we need no other principles. By simply considering those ideas and comparing them with one another, we can find their agreement and disagreement and their various relations. By following this one rule we shall get more true and clear knowledge than by taking

29 Polemo (d. c. 270 BC) headed Plato's Academy; Anaximenes of Miletus (6th century BC) made air the first principle of things. The modern reviver of materialism Locke has in mind is probably Thomas Hobbes.
30 Aristippus of Cyrene founded the pleasure-centered Cyrenaic school; Antisthenes, a pupil of Socrates, was seen as the forerunner of the Cynics; Archelaus (5th century BC) was reputedly a teacher of Socrates.

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rule, than by taking up principles, and thereby putting our minds into the disposal of others.

4.12.7 *The true method of advancing in knowledge is by considering our abstract ideas.*—We must, therefore, if we will proceed as reason advises, adapt our methods of inquiry to the nature of the ideas we examine, and the truth we search after. General and certain truths are only founded in the habitudes and relations of abstract ideas. A sagacious and methodical application of our thoughts, for the finding out these relations, is the only way to discover all that can be put with truth and certainty concerning them into general propositions.

By what steps we are to proceed in these is to be learned in the schools of the mathematicians, who from very plain and easy beginnings, by gentle degrees, and a continued chain of reasonings, proceed to the discovery and demonstration of truths, that appear at first sight beyond human capacity.

The art of finding proofs, and the admirable methods they have invented for the singling out, and laying in order, those intermediate ideas that demonstratively show the equality or inequality of inapplicable quantities, is that which has carried them so far, and produced such wonderful and unexpected discoveries: but whether something like this, in respect of other ideas, as well as those of magnitude, may not in time be found out, I will not determine. This, I think, I may say, that if other ideas, that are the real as well as nominal essences of their species were pursued in the way familiar to mathematicians, they would carry our thoughts farther, and with greater evidence and clearness, than possibly we are apt to imagine.

4.12.8 *By which morality also may be made clearer.*—This gave me the confidence to advance that conjecture, which I suggest, chap. iii. viz. that morality is capable of demonstration as well as mathematics. For the ideas that ethics are conversant about being all real essences, and such as I imagine have a discoverable connexion and agreement one with another: so far as we can find their habitudes and relations, so far we shall be possessed of certain real and general truths; and I doubt not, but, if a right method were taken,

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up principles and thereby putting our minds at the disposal of others.

The true method of advancing in knowledge is by considering our abstract ideas.—If we will proceed as reason advises, then, we must adapt our methods of inquiry to the nature of the ideas we examine and the truth we are searching for. General and certain truths are founded only in the relations of abstract ideas. A shrewd and methodical application of our thoughts to finding out these relations is the only way to discover everything about them that can be put into general propositions with truth and certainty.

The steps by which we should proceed in these matters are to be learned in the schools of the mathematicians. From very plain and easy beginnings, by gentle degrees and an unbroken chain of reasoning, they go on to discover and demonstrate truths that at first sight seem beyond human capacity.

They have invented an art of finding proofs, and admirable methods for singling out and setting in order the intermediate ideas that demonstratively show the equality or inequality of quantities that cannot be laid one upon another. This is what has carried them so far and produced such wonderful and unexpected discoveries. Whether something like this may not in time be found for other ideas, as well as for those of magnitude, I will not decide. This much, I think, I may say. Suppose other ideas that are the real as well as the nominal essences of their species were pursued in the way familiar to mathematicians. They would then carry our thoughts further, and with greater evidence and clearness, than we are perhaps inclined to imagine.

By which morality too may be made clearer.—This gave me the confidence to put forward the conjecture I suggested in Chapter 3, namely, that morality is capable of demonstration as well as mathematics. For the ideas that ethics deals with are all real essences, and such as, I imagine, have a discoverable connection and agreement with one another. So as far as we can find their relations, we shall possess certain, real, and general truths. And I do not doubt that, if a right method were taken, a great part of morality might be worked out with

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a great part of morality might be made out with that clearness, that could leave, to a considering man, no more reason to doubt, than he could have to doubt of the truth of propositions in mathematics, which have been demonstrated to him.

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great clearness. A thoughtful man would then have no more reason to doubt it than he could have to doubt the truth of propositions in mathematics that have been demonstrated to him.[31]

NATURAL PHILOSOPHY BY EXPERIENCE

Knowledge of bodies advances only by experiment, so natural philosophy cannot become a science.

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4.12.9 *But knowledge of bodies is to be improved only by experience.*—In our search after the knowledge of substances, our want of ideas, that are suitable to such a way of proceeding, obliges us to a quite different method. We advance not here, as in the other (where our abstract ideas are real as well as nominal essences) by contemplating our ideas, and considering their relations and correspondences; that helps us very little, for the reasons that, in another place, we have at large set down. By which I think it is evident, that substances afford matter of very little general knowledge; and the bare contemplation of their abstract ideas will carry us but a very little way in the search of truth and certainty.

What then are we to do for the improvement of our knowledge in substantial beings? Here we are to take quite a contrary course; the want of ideas of their real essences sends us from our own thoughts to the things themselves as they exist. Experience here must teach me what reason cannot; and it is by trying alone that I can certainly know what other qualities coexist with those of my complex idea, *v. g.* whether that yellow, heavy, fusible body I call gold, be malleable or no; which experience (which way ever it prove in that particular body I examine) makes me not certain that it is so in all, or any other yellow, heavy, fusible bodies, but that which I have tried.

Because it is no consequence one way or the other from my complex idea; the necessity or inconsistence of malleability hath no visible connexion with the combination of that colour, weight, and fusibility in any body. What I have here said of the nominal essence of gold, supposed to consist of a body of such a

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But knowledge of bodies can be improved only by experience.—In our search for knowledge of substances, we lack ideas suited to such a way of proceeding, and this forces us into a quite different method. Here we do not advance, as in the other case (where our abstract ideas are real as well as nominal essences), by contemplating our ideas and considering their relations and correspondences. That helps us very little, for reasons we have set out at length elsewhere. From this I think it is evident that substances provide material for very little general knowledge. The bare contemplation of their abstract ideas will carry us only a very little way in the search for truth and certainty.

What, then, are we to do to improve our knowledge of substantial beings? Here we must take quite the opposite course. The lack of ideas of their real essences sends us away from our own thoughts to the things themselves as they exist. Here experience must teach me what reason cannot. Only by trying can I know for certain what other qualities coexist with those in my complex idea—for example, whether the yellow, heavy, fusible body I call gold is malleable or not. And this experience (whichever way it turns out in the particular body I examine) does not make me certain that it is so in all, or in any, other yellow, heavy, fusible bodies than the one I have tried.

For it follows neither way from my complex idea. The necessity or inconsistency of malleability has no visible connection with the combination of that color, weight, and fusibility in any body. What I have said here of the nominal essence of gold, supposed to consist of a body of a certain determ-

31 See 4.3.18.

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determinate colour, weight, and fusibility, will hold true, if malleableness, fixedness, and solubility in aqua regia be added to it. Our reasonings from these ideas will carry us but a little way in the certain discovery of the other properties in those masses of matter wherein all these are to be found.

Because the other properties of such bodies depending not on these, but on that unknown real essence on which these also depend, we cannot by them discover the rest; we can go no farther than the simple ideas of our nominal essence will carry us, which is very little beyond themselves; and so afford us but very sparingly any certain, universal, and useful truths.

For upon trial having found that particular piece (and all others of that colour, weight, and fusibility that I ever tried) malleable, that also makes now perhaps a part of my complex idea, part of my nominal essence of gold: whereby though I make my complex idea, to which I affix the name gold, to consist of more simple ideas than before, yet still, it not containing the real essence of any species of bodies, it helps me not, certainly, to know (I say, to know, perhaps it may to conjecture) the other remaining properties of that body, farther than they have a visible connexion with some or all of the simple ideas that make up my nominal essence.

For example, I cannot be certain from this complex idea whether gold be fixed or no; because, as before, there is no necessary connexion or inconsistence to be discovered betwixt a complex idea of a body yellow, heavy, fusible, malleable-betwixt these, I say, and fixedness; so that I may certainly know, that in whatsoever body these are found, there fixedness is sure to be. Here again for assurance I must apply myself to experience; as far as that reaches I may have certain knowledge, but no farther.

4.12.10 *This may procure us convenience, not science.*—I deny not but a man, accustomed to rational and regular experiments, shall be able to see farther into the nature of bodies, and guess righter at their yet unknown properties, than one that is a stranger to them: but yet, as I have said, this is but judgment and opinion, not knowledge and certainty. This way of getting and improving our knowledge in substances only by experience and

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inate color, weight, and fusibility, will still hold true if malleability, fixedness, and solubility in aqua regia are added to it. Our reasonings from these ideas will carry us only a little way toward certainly discovering the other properties of those masses of matter in which all these are found.

For the other properties of such bodies depend not on these, but on that unknown real essence on which these too depend. So we cannot discover the rest by means of them. We can go no further than the simple ideas of our nominal essence will carry us, which is very little beyond themselves. And so they provide us with very few certain, universal, and useful truths.

Suppose I have found on trial that this particular piece is malleable (and all others of that color, weight, and fusibility that I ever tried). That too perhaps now becomes part of my complex idea, part of my nominal essence of gold. I thereby make the complex idea to which I attach the name gold consist of more simple ideas than before. Still, since it does not contain the real essence of any species of bodies, it does not help me to know with certainty the other remaining properties of that body. (To know, I say—perhaps it may help me to conjecture.) It helps only so far as they have a visible connection with some or all of the simple ideas that make up my nominal essence.

For example, I cannot be certain from this complex idea whether gold is fixed or not. For, as before, there is no necessary connection or inconsistency to be discovered between the complex idea of a body that is yellow, heavy, fusible, and malleable—between these, I say, and fixedness. So I cannot know for certain that in whatever body these are found, fixedness is sure to be there too. Here again, for assurance, I must turn to experience. As far as that reaches I may have certain knowledge, but no further.

This may win us conveniences, not science.—I do not deny that a man accustomed to rational and regular experiments will see further into the nature of bodies, and guess more accurately at their still unknown properties, than someone unfamiliar with them. But still, as I have said, this is only judgment and opinion, not knowledge and certainty. We can get and improve our knowledge of sub-

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history, which is all that the weakness of our faculties in this state of mediocrity we are in in this world can attain to, makes me suspect that natural philosophy is not capable of being made a science.

We are able, I imagine, to reach very little general knowledge concerning the species of bodies, and their several properties. Experiments and historical observations we may have, from which we may draw advantages of ease and health, and thereby increase our stock of conveniencies for this life; but beyond this, I fear, our talents reach not, nor are our faculties, as I guess, able to advance.

4.12.11 *We are fitted for moral knowledge and natural improvements.*—From whence it is obvious to conclude that since our faculties are not fitted to penetrate into the internal fabric and real essences of bodies; but yet plainly discover to us the being of a God, and the knowledge of ourselves, enough to lead us into a full and clear discovery of our duty and great concernment: it will become us, as rational creatures, to employ those faculties we have about what they are adapted to, and follow the direction of nature, where it seems to point us out the way.

For it is rational to conclude that our employment lies in those inquiries, and in that sort of knowledge, which is most suited to our natural capacities, and carries in it our greatest interest, *i. e.* the condition of our eternal estate. Hence I think I may conclude, that morality is the proper science and business of mankind in general (who are both concerned and fitted to search out their *summum bonum*), as several arts, conversant about several parts of nature, are the lot and private talent of particular men, for the common use of human life, and their own particular subsistence in this world.

Of what consequence the discovery of one natural body, and its properties, may be to human life, the whole great continent of America is a convincing instance; whose ignorance in useful arts, and want of the greatest part of the conveniences of life, in a country that abounded with all sorts of natural plenty, I think may be attributed to their ignorance of what was to be found in a very ordinary despicable stone, I mean the mineral of iron.

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stances only by experience and history, which is all that the weakness of our faculties can achieve in the middling state we are in in this world. This makes me suspect that natural philosophy is not capable of being made a science.

We are able, I imagine, to reach very little general knowledge about the species of bodies and their various properties. We may have experiments and historical observations. From them we can draw advantages of ease and health, and so increase our stock of conveniences for this life. But beyond this, I fear, our talents do not reach, nor, I suspect, are our faculties able to advance.

We are fitted for moral knowledge and natural improvements.—From this the obvious conclusion follows. Our faculties are not fitted to penetrate the internal structure and real essences of bodies. Yet they plainly reveal to us the existence of a God and give us knowledge of ourselves, enough to lead us to a full and clear discovery of our duty and our great concern. It therefore befits us, as rational creatures, to employ the faculties we have on what they are suited to, and to follow the direction of nature where it seems to point out the way to us.

For it is rational to conclude that our proper occupation lies in those inquiries, and that sort of knowledge, best suited to our natural capacities and carrying with it our greatest interest, that is, the condition of our eternal state. Hence I think I may conclude that morality is the proper science and business of mankind in general, since all are both concerned and fitted to search out their *summum bonum*, their highest good. Just so, various arts dealing with various parts of nature are the lot and private talent of particular men, for the common use of human life and their own particular subsistence in this world.

How much the discovery of one natural body and its properties may matter to human life, the whole great continent of America is a convincing instance. Its peoples lacked the useful arts and most of the conveniences of life in a country that abounded in every sort of natural plenty. I think this may be attributed to their ignorance of what was to be found in a very ordinary, lowly stone—I mean iron ore.

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And whatever we think of our parts or improvements in this part of the world, where knowledge and plenty seem to vie with each other; yet to any one that will seriously reflect on it, I suppose it will appear past doubt, that were the use of iron lost among us, we should in a few ages be unavoidably reduced to the wants and ignorance of the ancient *[Indigenous]* Americans, whose natural endowments and provisions come no way short of those of the most flourishing and polite nations. So that he who first made known the use of that one contemptible mineral may be truly styled the father of arts, and author of plenty.

4.12.12 *But must beware of hypothesis and wrong principles.* —I would not therefore be thought to disesteem or dissuade the study of nature. I readily agree the contemplation of his works gives us occasion to admire, revere, and glorify their Author: and, if rightly directed, may be of greater benefit to mankind than the monuments of exemplary charity, that have at so great charge been raised by the founders of hospitals and almshouses. He that first invented printing, discovered the use of the compass, or made public the virtue and right use of kin kina, did more for the propagation of knowledge, for the supply and increase of useful commodities, and saved more from the grave, than those who built colleges, workhouses, and hospitals.

All that I would say is, that we should not be too forwardly possessed with the opinion or expectation of knowledge, where it is not to be had, or by ways that will not attain to it; that we should not take doubtful systems for complete sciences, nor unintelligible notions for scientifical demonstrations. In the knowledge of bodies, we must be content to glean what we can from particular experiments; since we cannot, from a discovery of their real essences, grasp at a time whole sheaves, and in bundles comprehend the nature and properties of whole species together.

Where our inquiry is concerning coexistence, or repugnancy to coexist, which by contemplation of our ideas we cannot discover; there experience, observation, and natural history

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And whatever we think of our abilities or advances in this part of the world, where knowledge and plenty seem to compete with each other, I suppose one thing will appear beyond doubt to anyone who seriously reflects on it. If the use of iron were lost among us, we should in a few ages be unavoidably reduced to the wants and ignorance of the ancient Native Americans, whose natural endowments and resources fall in no way short of those of the most flourishing and refined nations. So whoever first made known the use of that one despised mineral may truly be called the father of the arts and the author of plenty.

But we must beware of hypotheses and wrong principles.—I would not, therefore, be thought to undervalue the study of nature or to discourage it. I readily agree that contemplating God's works gives us occasion to admire, revere, and glorify their Author. And, if rightly directed, it may be of greater benefit to mankind than the monuments of exemplary charity raised at such great cost by the founders of hospitals and almshouses. The man who first invented printing, discovered the use of the compass, or made public the power and right use of cinchona bark did more for the spread of knowledge and the supply and increase of useful goods than those who built colleges, workhouses, and hospitals, and saved more people from the grave.[32]

All I would say is that we should not too eagerly adopt the opinion or expectation of knowledge where it is not to be had, or by ways that will not reach it. We should not take doubtful systems for complete sciences, nor unintelligible notions for scientific demonstrations. In the knowledge of bodies we must be content to glean what we can from particular experiments. For we cannot discover their real essences, and so we cannot grasp whole sheaves at a time and take in the nature and properties of whole species together in bundles.

Some inquiries concern coexistence, or incompatibility of coexistence, which we cannot discover by contemplating our ideas. There, experience, observation, and natural history must give us an

32 Cinchona ("kin kina," Peruvian bark), the source of quinine, was then newly used in Europe against malarial fevers.

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must give us by our senses, and by retail, an insight into corporeal substances. The knowledge of bodies we must get by our senses, warily employed in taking notice of their qualities and operations on one another: and what we hope to know of separate spirits in this world we must, I think, expect only from revelation.

He that shall consider how little general maxims, precarious principles, and hypotheses laid down at pleasure, have promoted true knowledge, or helped to satisfy the inquiries of rational men after real improvements; how little, I say, the setting out at the end has, for many ages together, advanced men's progress towards the knowledge of natural philosophy; will think we have reason to thank those, who in this latter age have taken another course, and have trod out to us, though not an easier way to learned ignorance, yet a surer way to profitable knowledge.

4.12.13 *The true use of hypotheses.*—Not that we may not, to explain any phenomena of nature, make use of any probable hypothesis whatsoever: hypotheses, if they are well made, are at least great helps to the memory, and often direct us to new discoveries.

But my meaning is, that we should not take up any one too hastily (which the mind that would always penetrate into the causes of things, and have principles to rest on, is very apt to do) till we have very well examined particulars, and made several experiments in that thing which we would explain by our hypothesis, and see whether it will agree to them all; whether our principles will carry us quite through, and not be as inconsistent with one phenomenon of nature as they seem to accommodate and explain another.

And at least that we take care, that the name of principles deceive us not, nor impose on us, by making us receive that for an unquestionable truth which is really at best but a very doubtful conjecture, such as are most (I had almost said all) of the hypotheses in natural philosophy.

4.12.14 *Clear and distinct ideas with settled names, and the finding of those which show their agreement or disagreement are the ways to enlarge our knowledge.*—But whether natural philosophy be capable of certainty or no, the ways to enlarge our

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insight into bodily substances through our senses, piece by piece. We must get the knowledge of bodies through our senses, carefully employed in noting their qualities and their operations on one another. And what we hope to know of separate spirits in this world we must, I think, expect only from revelation.

Consider how little general maxims, shaky principles, and hypotheses laid down at will have promoted true knowledge, or helped satisfy rational men's inquiries after real improvements. Consider how little, I say, setting out from the end has advanced men's progress toward knowledge of natural philosophy over so many ages. Anyone who does so will think we have reason to thank those who in this recent age have taken another course. They have beaten out for us, if not an easier way to learned ignorance, then a surer way to useful knowledge.

The true use of hypotheses.—This is not to say that we may not use any probable hypothesis whatever to explain any phenomena of nature. Hypotheses, if well made, are at least great aids to the memory, and often lead us to new discoveries.

But my meaning is that we should not adopt any one too hastily, which the mind is very apt to do, since it always wants to penetrate into the causes of things and to have principles to rest on. We should wait until we have thoroughly examined particulars and made several experiments on the thing we would explain by our hypothesis. We should see whether it fits them all—whether our principles will carry us all the way through, and will not be as inconsistent with one phenomenon of nature as they seem to suit and explain another.

And at least we should take care that the name of principles does not deceive us or impose on us. It must not make us accept as an unquestionable truth what is really, at best, a very doubtful conjecture—as most (I had almost said all) of the hypotheses in natural philosophy are.

Clear and distinct ideas with settled names, and finding those ideas that show their agreement or disagreement, are the ways to enlarge our knowledge.—But whether or not natural philosophy is capable of certainty, the ways to enlarge our knowledge, as

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knowledge, as far as we are capable, seem to me, in short, to be these two:

First, The first is to get and settle in our minds determined ideas of those things, whereof we have general or specific names; at least, of so many of them as we would consider and improve our knowledge in, or reason about. And if they be specific ideas of substances, we should endeavour also to make them as complete as we can, whereby I mean that we should put together as many simple ideas as, being constantly observed to coexist, may perfectly determine the species: and each of those simple ideas, which are the ingredients of our complex ones, should be clear and distinct in our minds.

For it being evident that our knowledge cannot exceed our ideas, as far as they are either imperfect, confused, or obscure, we cannot expect to have certain, perfect, or clear knowledge.

Secondly, The other is the art of finding out those intermediate ideas, which may show us the agreement or repugnancy of other ideas, which cannot be immediately compared.

4.12.15 *Mathematics an instance of it.*—That these two (and not the relying on these maxims, and drawing consequences from some general propositions) are the right methods of improving our knowledge in the ideas of other modes besides those of quantity, the consideration of mathematical knowledge will easily inform us. Where first we shall find that he, that has not a perfect knowledge and clear idea of those angles or figures of which he desires to know any thing, is utterly incapable of any knowledge about them. Suppose but a man not to have a perfect exact idea of a right angle, a scalenum, or trapezium; and there is nothing more certain than that he will in vain seek any demonstration about them.

Farther, it is evident, that it was not the influence of those maxims, which are taken from principles in mathematics, that have led the masters of that science into those wonderful discoveries they have made. Let a man of good parts know all the maxims generally made use of in mathematics ever so perfectly, and contemplate their extent and consequences as much as he pleases, he will, by their assistance, I suppose, scarce ever come to

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far as we are capable of it, seem to me, in short, to be these two:

First: the first is to get and settle in our minds determinate ideas of the things for which we have general or specific names. We should at least do this for as many of them as we want to consider, improve our knowledge in, or reason about. And if they are specific ideas of substances, we should also try to make them as complete as we can. By this I mean that we should put together as many simple ideas as, being constantly observed to coexist, may perfectly determine the species. And each of those simple ideas, which are the ingredients of our complex ones, should be clear and distinct in our minds.

For it is evident that our knowledge cannot go beyond our ideas. So as far as our ideas are imperfect, confused, or obscure, we cannot expect to have certain, perfect, or clear knowledge.

Secondly: the other is the art of finding those intermediate ideas that can show us the agreement or incompatibility of other ideas which cannot be compared immediately.

Mathematics an instance of this.—These two are the right methods of improving our knowledge in the ideas of other modes besides those of quantity, not reliance on those maxims and the drawing of consequences from some general propositions. A look at mathematical knowledge will easily show us this. There, first, we shall find that anyone who lacks a perfect knowledge and clear idea of the angles or figures he wants to know something about is utterly incapable of any knowledge about them. Just suppose a man without a perfect, exact idea of a right angle, a scalene triangle, or a trapezium. Nothing is more certain than that he will look in vain for any demonstration about them.

Further, it is evident that it was not the influence of those maxims taken as principles in mathematics that led the masters of that science to the wonderful discoveries they have made. Let a man of good abilities know all the maxims commonly used in mathematics as perfectly as you like, and contemplate their scope and consequences as much as he pleases. He will scarcely ever, I sup-

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know that the square of the hypothenuse in a right-angled triangle is equal to the squares of the two other sides. The knowledge that the whole is equal to all its parts, and if you take equals from equals, the remainder will be equal, &c.

helped him not, I presume, to this demonstration: and a man may, I think, pore long enough on those axioms, without ever seeing one jot the more of mathematical truths. They have been discovered by the thoughts otherwise applied: the mind had other objects, other views before it, far different from those maxims, when it first got the knowledge of such truths in mathematics, which men well enough acquainted with those received axioms, but ignorant of their method who first made these demonstrations, can never sufficiently admire.

And who knows what methods, to enlarge our knowledge in other parts of science, may hereafter be invented, answering that of algebra in mathematics, which so readily finds out the ideas of quantities to measure others by; whose equality or proportion we could otherwise very hardly or perhaps never come to know?

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pose, come to know by their help that the square of the hypotenuse in a right-angled triangle is equal to the squares of the other two sides. The knowledge that the whole is equal to all its parts, and that if you take equals from equals the remainders will be equal, and so on,

did not, I presume, help him to this demonstration. A man may, I think, pore over those axioms long enough without ever seeing one jot more of mathematical truth. Such truths have been discovered by thought applied in other ways. When the mind first got the knowledge of these truths in mathematics, it had other objects and other views before it, very different from those maxims. Men who know the received axioms well enough, but not the method of those who first made these demonstrations, can never sufficiently admire those truths.

And who knows what methods for enlarging our knowledge in other parts of science may be invented hereafter, corresponding to that of algebra in mathematics? Algebra so readily finds out ideas of quantities to measure others by—quantities whose equality or proportion we could otherwise come to know only with great difficulty, or perhaps never.

KNOWLEDGE PARTLY VOLUNTARY

We choose where to direct our faculties, but not what we find once we look.

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4.13.1 *Our knowledge partly necessary, partly voluntary.*— Our knowledge, as in other things, so in this, has so great a conformity with our sight, that it is neither wholly necessary, nor wholly voluntary. If our knowledge were altogether necessary, all men's knowledge would not only be alike, but every man would know all that is knowable: and if it were wholly voluntary, some men so little regard or value it, that they would have extreme little, or none at all.

Men that have senses cannot choose but receive some ideas by them; and if they have memory, they cannot but retain some of them; and if they have any distinguishing faculty, cannot but perceive the agreement or disagreement of some of them one with another: as he that has eyes, if he will open them by day, cannot but see some objects, and perceive a difference in them.

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Our knowledge is partly necessary, partly voluntary.— In this, as in other things, our knowledge closely resembles our sight: it is neither wholly necessary nor wholly voluntary. If our knowledge were altogether necessary, not only would all men's knowledge be alike, but every man would know everything knowable. And if it were wholly voluntary, some men regard or value it so little that they would have extremely little of it, or none at all.

Men who have senses cannot help receiving some ideas through them. If they have memory, they cannot help retaining some of them. And if they have any faculty of distinguishing, they cannot help perceiving the agreement or disagreement of some of them with one another. In the same way, someone who has eyes, if he opens them by day,

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But though a man with his eyes open in the light, cannot but see, yet there be certain objects, which he may choose whether he will turn his eyes to; there may be in his reach a book containing pictures and discourses, capable to delight or instruct him, which yet he may never have the will to open, never take the pains to look into.

4.13.2 *The application voluntary; but we know as things are, not as we please.*—There is also another thing in a man's power, and that is, though he turns his eyes sometimes toward an object, yet he may choose whether he will curiously survey it, and with an intent application endeavour to observe accurately all that is visible in it. But yet what he does see, he cannot see otherwise than he does. It depends not on his will to see that black which appears yellow; nor to persuade himself, that what actually scalds him feels cold.

The earth will not appear painted with flowers, nor the fields covered with verdure, whenever he has a mind to it: in the cold winter he cannot help seeing it white and hoary, if he will look abroad. Just thus is it with our understanding; all that is voluntary in our knowledge is the employing or withholding any of our faculties from this or that sort of objects, and a more or less accurate survey of them: but, they being employed, our will hath no power to determine the knowledge of the mind one way or other; that is done only by the objects themselves, as far as they are clearly discovered.

And therefore, as far as men's senses are conversant about external objects, the mind cannot but receive those ideas which are presented by them, and be informed of the existence of things without: and so far as men's thoughts converse with their own determined ideas, they cannot but, in some measure, observe the agreement or disagreement that is to be found among some of them, which is so far knowledge: and if they have names for those ideas which they have thus considered, they must needs be assured of the truth of those propositions which express that agreement or disagreement they perceive in them, and be undoubtedly convinced of those truths.

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cannot help seeing some objects and perceiving differences among them.

But though a man with his eyes open in the light cannot help seeing, there are still certain objects he may choose whether to turn his eyes toward. There may be within his reach a book containing pictures and writings that could delight or instruct him. Yet he may never have the will to open it, never take the trouble to look into it.

The application is voluntary, but we know things as they are, not as we please.—There is another thing in a man's power. Though he sometimes turns his eyes toward an object, he may still choose whether to examine it carefully and, with close attention, try to observe accurately everything visible in it. But what he does see, he cannot see otherwise than he does. It does not depend on his will to see as black what appears yellow, or to persuade himself that what is actually scalding him feels cold.

The earth will not appear painted with flowers, nor the fields covered with green, whenever he wants it to. In cold winter he cannot help seeing it white and frosty if he looks outdoors. It is just so with our understanding. All that is voluntary in our knowledge is whether we employ our faculties on this or that sort of objects or withhold them from it, and whether we survey those objects more or less accurately. But once our faculties are employed, our will has no power to determine the mind's knowledge one way or the other. That is done only by the objects themselves, as far as they are clearly revealed.

Therefore, as far as men's senses deal with external objects, the mind cannot help receiving the ideas presented by them and being informed of the existence of things outside it. And as far as men's thoughts deal with their own determinate ideas, they cannot help observing, to some extent, the agreement or disagreement found among some of them, which is so far knowledge. And if they have names for the ideas they have considered in this way, they must be assured of the truth of the propositions that express the agreement or disagreement they perceive in them, and be convinced beyond doubt of those truths.

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For what a man sees, he cannot but see; and what he perceives, he cannot but know that he perceives.

4.13.3 *Instance, in numbers.*—Thus he that has got the ideas of numbers, and hath taken the pains to compare one, two, and three to six, cannot choose but know that they are equal: he that hath got the idea of a triangle, and found the ways to measure its angles, and their magnitudes, is certain that its three angles are equal to two right ones; and can as little doubt of that as of this truth, "that it is impossible for the same thing to be, and not to be."

In natural religion.—He also that hath the idea of an intelligent, but frail and weak being, made by, and depending on, another, who is eternal, omnipotent, perfectly wise and good, will as certainly know that man is to honour, fear, and obey God, as that the sun shines when he sees it.

For if he hath but the ideas of two such beings in his mind, and will turn his thoughts that way, and consider them, he will as certainly find that the inferior, finite, and dependent, is under an obligation to obey the supreme and infinite, as he is certain to find that three, four, and seven are less than fifteen, if he will consider and compute those numbers; nor can he be surer in a clear morning that the sun is risen, if he will but open his eyes, and turn them that way.

But yet these truths, being ever so certain, ever so clear, he may be ignorant of either, or of all of them, who will never take the pains to employ his faculties, as he should, to inform himself about them.

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For what a man sees, he cannot help seeing; and what he perceives, he cannot help knowing that he perceives.

An instance in numbers.—Thus whoever has got the ideas of numbers, and has taken the trouble to compare one, two, and three with six, cannot help knowing that they are equal. Whoever has got the idea of a triangle, and found ways to measure its angles and their sizes, is certain that its three angles are equal to two right angles. He can doubt that as little as he can doubt the truth “that it is impossible for the same thing to be and not to be.”

In natural religion.—So too, suppose someone has the idea of an intelligent but frail and weak being, made by and dependent on another who is eternal, omnipotent, perfectly wise and good. He will know that man is to honor, fear, and obey God as certainly as he knows the sun is shining when he sees it.

For if he only has the ideas of two such beings in his mind, and will turn his thoughts that way and consider them, he will certainly find that the inferior, finite, and dependent is under an obligation to obey the supreme and infinite. He will find this as certainly as he will find that three, four, and seven are less than fifteen, if he will consider and add up those numbers. Nor can he be surer on a clear morning that the sun has risen, if he will only open his eyes and turn them that way.

But however certain and clear these truths are, a man may be ignorant of any or all of them if he will never take the trouble to employ his faculties, as he should, to inform himself about them.

Book IV: Of Knowledge and Opinion (Chapters XIV–XXI)

Judgment and probability, degrees of assent, reason, faith and reason, enthusiasm, error, and the division of the sciences.

CHAPTER XIV. OF JUDGMENT.

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4.14.1 *Our knowledge being short, we want something else.*—The understanding faculties being given to man, not barely for speculation, but also for the conduct of his life, man would be at a great loss if he had nothing to direct him but what has the certainty of true knowledge. For that being very short and scanty, as we have seen, he would be often utterly in the dark, and, in most of the actions of his life, perfectly at a stand, had he nothing to guide him in the absence of clear and certain knowledge.

He that will not eat till he has demonstration that it will nourish him; he that will not stir till he infallibly knows the business he goes about will succeed; will have little else to do but to sit still and perish.

4.14.2 *What use to be made of this twilight state.*—Therefore as God has set some things in broad day-light; as he has given us some certain knowledge, though limited to a few things in comparison, probably, as a taste of what intellectual creatures are capable of, to excite in us a desire and endeavour after a better state; so in the greatest part of our concernments he has afforded us only the twilight, as I may so say, of probability; suitable, I presume, to that state of mediocrity and probationership he has been pleased to place us in here;

wherein, to check our over-confidence and presumption, we might by every day's experience be made sensible of our short-sightedness, and liableness to error; the sense whereof might be a constant admonition to us, to spend the days of this our pilgrimage with industry and care, in the search and following of that way, which might lead us to a state of greater perfection: it being highly rational to think, even were revelation

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Since our knowledge is limited, we need something else.—The faculties of the understanding were given to man not merely for speculation but also for the conduct of his life. So man would be at a great loss if he had nothing to direct him except what has the certainty of true knowledge. That knowledge is very limited and scanty, as we have seen. If he had nothing to guide him where clear and certain knowledge is lacking, he would often be completely in the dark, and in most of the actions of his life he would be brought to a complete standstill.

Anyone who will not eat until he has a demonstration that the food will nourish him, or will not move until he knows infallibly that the business he is undertaking will succeed, will have little else to do but sit still and perish.

What use to make of this twilight state.—So God has set some things in broad daylight. He has given us some certain knowledge, though it is limited to comparatively few things. He has probably given it as a taste of what intellectual creatures are capable of, to arouse in us a desire for a better state and an effort toward it. But in most of our concerns he has given us only the twilight, so to speak, of probability. This is suited, I presume, to the state of mediocrity and probation in which he has been pleased to place us here.

In this state, to check our overconfidence and presumption, every day's experience might make us aware of our shortsightedness and our liability to error. That awareness might be a constant reminder to spend the days of this pilgrimage of ours with industry and care, searching for and following the way that might lead us to a state of greater perfection. For it is highly rational to think, even if revelation were silent on the matter, that as men use

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silent in the case, that as men employ those talents God has given them here, they shall accordingly receive their rewards at the close of the day, when their sun shall set, and night shall put an end to their labours.

4.14.3 *Judgment supplies the want of knowledge.*—The faculty which God has given man to supply the want of clear and certain knowledge, in cases where that cannot be had, is judgment; whereby the mind takes its ideas to agree or disagree; or, which is the same, any proposition to be true or false, without perceiving a demonstrative evidence in the proofs. The mind sometimes exercises this judgment out of necessity, where demonstrative proofs and certain knowledge are not to be had; and sometimes out of laziness, unskilfulness, or haste, even where demonstrative and certain proofs are to be had.

Men often stay not warily to examine the agreement or disagreement of two ideas, which they are desirous or concerned to know; but, either incapable of such attention as is requisite in a long train of gradations, or impatient of delay, lightly cast their eyes on, or wholly pass by, the proofs: and so without making out the demonstration, determine of the agreement or disagreement of two ideas as it were by a view of them as they are at a distance, and take it to be the one or the other, as seems most likely to them upon such a loose survey.

This faculty of the mind, when it is exercised immediately about things, is called judgment; when about truths delivered in words, is most commonly called assent or dissent: which being the most usual way wherein the mind has occasion to employ this faculty, I shall under these terms treat of it, as least liable in our language to equivocation.

4.14.4 *Judgment is the presuming things to be so, without perceiving it.*—Thus the mind has two faculties, conversant about truth and falsehood.

First, Knowledge, whereby it certainly perceives, and is undoubtedly satisfied of, the agreement or disagreement of any ideas.

Secondly, Judgment, which is the putting ideas together, or separating them from one another in the mind, when their certain agreement or

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the talents God has given them here, so they will receive their rewards at the close of the day, when their sun sets and night puts an end to their labors.

Judgment supplies the lack of knowledge.—The faculty God has given man to supply the lack of clear and certain knowledge, in cases where it cannot be had, is judgment. By it the mind takes its ideas to agree or disagree, or, what is the same thing, takes a proposition to be true or false, without perceiving demonstrative evidence in the proofs. The mind sometimes exercises this judgment out of necessity, where demonstrative proofs and certain knowledge are not to be had. Sometimes it does so out of laziness, lack of skill, or haste, even where demonstrative and certain proofs are to be had.

Men often do not stop to examine carefully the agreement or disagreement of two ideas that they want or need to know about. Either they are incapable of the attention a long chain of steps requires, or they are impatient of delay. So they glance lightly at the proofs, or pass them by altogether. Without working out the demonstration, they settle the agreement or disagreement of two ideas as if by viewing them at a distance. They take it to be one or the other, whichever seems most likely to them on such a loose survey.

When this faculty of the mind is exercised directly about things, it is called judgment. When it is exercised about truths expressed in words, it is most commonly called assent or dissent. This is the most usual way in which the mind has occasion to use this faculty, so I will treat of it under these terms, since they are the least liable to ambiguity in our language.

Judgment is presuming things to be so without perceiving it.—So the mind has two faculties concerned with truth and falsehood.

First, knowledge, by which it perceives with certainty the agreement or disagreement of any ideas, and is satisfied of it beyond doubt.

Second, judgment. This is putting ideas together in the mind, or separating them from one another, when their agreement or disagreement is not per-

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disagreement is not perceived, but presumed to be so; which is, as the word imports, taken to be so before it certainly appears. And if it so unites, or separates them, as in reality things are, it is right judgment.

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ceived with certainty but presumed. As the word implies, it is taken to be so before it plainly appears. And if judgment unites or separates them as things really are, it is right judgment.

PROBABILITY

Probability rests on conformity with experience and on testimony, as the Dutch ambassador and the king of Siam show.

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4.15.1 *Probability is the appearance of agreement upon fallible proofs.*—As demonstration is the showing the agreement or disagreement of two ideas, by the intervention of one or more proofs, which have a constant, immutable, and visible connexion one with another; so probability is nothing but the appearance of such an agreement or disagreement, by the intervention of proofs, whose connexion is not constant and immutable, or at least is not perceived to be so, but is or appears for the most part to be so, and is enough to induce the mind to judge the proposition to be true or false, rather than the contrary.

For example: in the demonstration of it a man perceives the certain immutable connexion there is of equality between the three angles of a triangle, and those intermediate ones which are made use of to show their equality to two right ones; and so by an intuitive knowledge of the agreement or disagreement of the intermediate ideas in each step of the progress, the whole series is continued with an evidence which clearly shows the agreement or disagreement of those three angles in equality to two right ones: and thus he has certain knowledge that it is so.

But another man, who never took the pains to observe the demonstration, hearing a mathematician, a man of credit, affirm the three angles of a triangle to be equal to two right ones, assents to it, *i. e.* receives it for true. In which case the foundation of his assent is the probability of the thing, the proof being such as for the most part carries truth with it: the man on whose testimony he receives it not being wont to affirm any thing contrary to, or besides his knowledge, especially in matters of this kind.

So that that which causes his assent to this proposition, that the three angles of a triangle are equal to two right ones, that which makes him

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Probability is the appearance of agreement on the basis of fallible proofs.—Demonstration is showing the agreement or disagreement of two ideas by means of one or more proofs that have a constant, unchangeable, and visible connection with one another. Probability, likewise, is nothing but the appearance of such an agreement or disagreement by means of proofs whose connection is not constant and unchangeable, or at least is not perceived to be so. But it is, or appears to be, so for the most part, and this is enough to induce the mind to judge the proposition true or false, rather than the contrary.

For example: in the demonstration of it, a man perceives the certain, unchangeable connection of equality between the three angles of a triangle and the intermediate angles used to show that they are equal to two right angles. At each step of the way he has an intuitive knowledge of the agreement or disagreement of the intermediate ideas. So the whole series is carried through with an evidence that clearly shows the agreement or disagreement of those three angles in being equal to two right angles. In this way he has certain knowledge that it is so.

But another man, who never took the trouble to follow the demonstration, hears a mathematician of good reputation affirm that the three angles of a triangle are equal to two right angles. He assents to it, that is, accepts it as true. In this case the foundation of his assent is the probability of the thing, since the proof is of a kind that for the most part carries truth with it. The man on whose testimony he accepts it is not in the habit of affirming anything contrary to his knowledge or beyond it, especially in matters of this kind.

So what causes his assent to this proposition, that the three angles of a triangle are equal to two right angles, is the speaker's usual truthfulness in other

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take these ideas to agree, without knowing them to do so, is the wonted veracity of the speaker in other cases, or his supposed veracity in this.

4.15.2 *It is to supply the want of knowledge.*—Our knowledge, as has been shown, being very narrow, and we not happy enough to find certain truth in every thing which we have occasion to consider; most of the propositions we think, reason, discourse, nay act upon, are such, as we cannot have undoubted knowledge of their truth: yet some of them border so near upon certainty, that we make no doubt at all about them; but assent to them as firmly, and act, according to that assent, as resolutely, as if they were infallibly demonstrated, and that our knowledge of them was perfect and certain.

But there being degrees herein from the very neighbourhood of certainty and demonstration, quite down to improbability and unlikeness, even to the confines of impossibility; and also degrees of assent from full assurance and confidence, quite down to conjecture, doubt, and distrust: I shall come now (having, as I think, found out the bounds of human knowledge and certainty), in the next place, to consider the several degrees and grounds of probability, and assent or faith.

4.15.3 *Being that which makes us presume things to be true before we know them to be so.*—Probability is likeliness to be true, the very notation of the word signifying such a proposition, for which there be arguments or proofs to make it pass or be received for true. The entertainment the mind gives to this sort of propositions is called belief, assent, or opinion, which is the admitting or receiving any proposition for true, upon arguments or proofs that are found to persuade us to receive it as true, without certain knowledge that it is so.

And herein lies the difference between probability and certainty, faith and knowledge, that in all the parts of knowledge there is intuition; each immediate idea, each step has its visible and certain connexion; in belief, not so. That which makes me believe something extraneous to the thing I believe; something not evidently joined on both sides to, and so not manifestly showing the agreement or

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cases, or his supposed truthfulness in this one. That is what makes him take these ideas to agree without knowing that they do.

It is to supply the lack of knowledge.—As has been shown, our knowledge is very narrow, and we are not fortunate enough to find certain truth in everything we have occasion to consider. Most of the propositions on which we think, reason, and converse, and even act, are such that we cannot have undoubted knowledge of their truth. Yet some of them border so closely on certainty that we have no doubt at all about them. We assent to them as firmly, and act on that assent as resolutely, as if they had been infallibly demonstrated and our knowledge of them were perfect and certain.

But there are degrees here, from the very neighborhood of certainty and demonstration all the way down to improbability and unlikelihood, even to the borders of impossibility. There are also degrees of assent, from full assurance and confidence all the way down to conjecture, doubt, and distrust. I have now, as I think, found the bounds of human knowledge and certainty. So I will next consider the several degrees and grounds of probability, and of assent or faith.

Being what makes us presume things to be true before we know them to be so.—Probability is likeliness to be true. The very derivation of the word signifies a proposition for which there are arguments or proofs that make it pass as true, or be accepted as true. The reception the mind gives to this sort of proposition is called belief, assent, or opinion. It is admitting or accepting a proposition as true on the basis of arguments or proofs that persuade us to accept it as true, without certain knowledge that it is so.

And this is the difference between probability and certainty, and between faith and knowledge. In all the parts of knowledge there is intuition: each immediate idea, each step, has its visible and certain connection. In belief it is not so. What makes me believe is something extraneous to the thing I believe. It is not evidently joined on both sides to the ideas under consideration, and so it does not plainly show their agreement or disagreement.

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disagreement of those ideas that are under consideration.

4.15.4 *The grounds of probability are two: conformity with our own experience, or the testimony of others' experience.*—Probability, then, being to supply the defect of our knowledge, and to guide us where that fails, is always conversant about propositions, whereof we have no certainty, but only some inducements to receive them for true. The grounds of it are, in short, these two following:

First, The conformity of any thing with our own knowledge, observation, and experience.

Secondly, The testimony of others, vouching their observation and experience. In the testimony of others is to be considered, 1. The number. 2. The integrity. 3. The skill of the witnesses. 4. The design of the author, where it is a testimony out of a book cited. 5. The consistency of the parts and circumstances of the relation. 6. Contrary testimonies.

4.15.5 *In this all the arguments* pro *and* con. *ought to be examined before we come to a judgment.*—Probability wanting that intuitive evidence, which infallibly determines the understanding, and produces certain knowledge, the mind, if it would proceed rationally, ought to examine all the grounds of probability, and see how they make more or less for or against any proposition, before it assents to, or dissents from it; and upon a due balancing the whole, reject or receive it with a more or less firm assent, proportionably to the preponderancy of the greater grounds of probability on one side or the other. For example:

If I myself see a man walk on the ice, it is past probability, it is knowledge; but if another tells me he saw a man in England, in the midst of a sharp winter, walk upon water hardened with cold; this has so great conformity with what is usually observed to happen, that I am disposed by the nature of the thing itself to assent to it, unless some manifest suspicion attend the relation of that matter of fact.

But if the same thing be told to one born between the tropics, who never saw nor heard of any such thing before, there the whole probability relies on testimony: and as the relators are more in

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The grounds of probability are two: conformity with our own experience, or the testimony of others' experience.—The role of probability, then, is to supply the defect of our knowledge and to guide us where knowledge fails. So it is always concerned with propositions of which we have no certainty, but only some inducements to accept them as true. In short, its grounds are these two:

First, the conformity of a thing with our own knowledge, observation, and experience.

Second, the testimony of others, vouching for their observation and experience. In the testimony of others we must consider: 1. The number of the witnesses. 2. Their integrity. 3. Their skill. 4. The aim of the author, where the testimony is cited from a book. 5. The consistency of the parts and circumstances of the account. 6. Contrary testimonies.

In this all the arguments pro *and* con *ought to be examined before we come to a judgment.*—Probability lacks the intuitive evidence that infallibly determines the understanding and produces certain knowledge. So if the mind wants to proceed rationally, it ought to examine all the grounds of probability before it assents to a proposition or dissents from it, and see how far they weigh for or against it. After duly balancing the whole, it should reject or accept the proposition with a more or less firm assent, in proportion to the preponderance of the greater grounds of probability on one side or the other. For example:

If I myself see a man walk on the ice, that is beyond probability; it is knowledge. But suppose someone else tells me he saw a man in England, in the middle of a hard winter, walk on water hardened by cold. This conforms so closely to what is usually observed to happen that the nature of the thing itself disposes me to assent to it, unless some obvious ground for suspicion attends the report of that matter of fact.

But suppose the same thing is told to someone born between the tropics, who has never seen or heard of any such thing before. Then the whole

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number, and of more credit, and have no interest to speak contrary to the truth; so that matter of fact is like to find more or less belief. Though to a man, whose experience has been always quite contrary, and who has never heard of any thing like it, the most untainted credit of a witness will scarce be able to find belief.

As it happened to a Dutch ambassador, who entertaining the king of Siam with the particularities of Holland, which he was inquisitive after, among other things told him, that the water in his country would sometimes, in cold weather, be so hard, that men walked upon it, and that it would bear an elephant if he were there. To which the king replied, "Hitherto I have believed the strange things you have told me, because I looked upon you as a sober, fair man; but now I am sure you lie."

4.15.6 *They being capable of great variety.*—Upon these grounds depends the probability of any proposition: and as the conformity of our knowledge, as the certainty of observations, as the frequency and constancy of experience, and the number and credibility of testimonies, do more or less agree or disagree with it, so is any proposition in itself more or less probable.

There is another, I confess, which, though by itself it be no true ground of probability, yet is often made use of for one, by which men most commonly regulate their assent, and upon which they pin their faith more than any thing else, and that is the opinion of others: though there cannot be a more dangerous thing to rely on, nor more likely to mislead one; since there is much more falsehood and error among men than truth and knowledge. And if the opinions and persuasions of others, whom we know and think well of, be a ground of assent, men have reason to be Heathens in Japan, *[Muslims]* in Turkey, Papists in Spain, Protestants in England, and Lutherans in Sweden.

But of this wrong ground of assent I shall have occasion to speak more at large in another place.

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probability rests on testimony. That matter of fact is likely to find more or less belief as the reporters are more numerous and of better credit, and have no interest in speaking contrary to the truth. But a man whose experience has always been quite the contrary, and who has never heard of anything like it, will hardly believe it even on the word of a witness of the most unblemished credit.

This is what happened to a Dutch ambassador who was entertaining the king of Siam with details about Holland, which the king was curious to hear. Among other things he told him that the water in his country would sometimes become so hard in cold weather that men walked on it, and that it would bear an elephant if there were one there. The king replied: “Until now I have believed the strange things you have told me, because I took you for a sober, fair-minded man; but now I am sure you are lying.”[1]

These grounds admit of great variety.—The probability of any proposition depends on these grounds. A proposition is in itself more or less probable as it agrees or disagrees more or less with our knowledge, the certainty of observations, the frequency and constancy of experience, and the number and credibility of testimonies.

There is another ground, I admit, which by itself is no true ground of probability but is often used as one. It is the one by which men most commonly regulate their assent, and on which they pin their faith more than on anything else: namely, the opinion of others. Yet nothing could be more dangerous to rely on, or more likely to mislead us, since there is much more falsehood and error among men than truth and knowledge. And if the opinions and convictions of others whom we know and think well of are a ground of assent, then men have reason to be pagans in Japan, Muslims in Turkey, Catholics in Spain, Protestants in England, and Lutherans in Sweden.

But I will have occasion to speak more fully of this wrong ground of assent elsewhere.[2]

1 Siam is the kingdom now called Thailand.
2 See 4.20, “Of Wrong Assent, or Error.”

DEGREES OF ASSENT

Assent should be proportioned to probability, and differences of opinion call for mutual charity and forbearance.

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4.16.1 *Our assent ought to be regulated by the grounds of probability.*—The grounds of probability we have laid down in the foregoing chapter; as they are the foundations on which our assent is built, so they are also the measure whereby its several degrees are or ought to be regulated: only we are to take notice, that whatever grounds of probability there may be, they yet operate no farther on the mind, which searches after truth, and endeavours to judge right, than they appear: at least in the first judgment or search that the mind makes.

I confess, in the opinions men have, and firmly stick to, in the world, their assent is not always from an actual view of the reasons that at first prevailed with them; it being in many cases almost impossible, and in most very hard, even for those who have very admirable memories, to retain all the proofs which upon a due examination, made them embrace that side of the question.

It suffices that they have once with care and fairness sifted the matter as far as they could, and that they have searched into all the particulars that they could imagine to give any light to the question, and with the best of their skill cast up the account upon the whole evidence; and thus, having once found on which side the probability appeared to them, after as full and exact an inquiry as they can make, they lay up the conclusion in their memories as a truth they have discovered; and for the future they remain satisfied with the testimony of their memories, that this is the opinion that, by the proofs they have once seen of it, deserves such a degree of their assent as they afford it.

4.16.2 *These cannot always be actually in view, and then we must content ourselves with the remembrance that we once saw ground for such a degree of assent.*—This is all that the greatest part of men are capable of doing, in regulating their opinions and judgments; unless a man will exact of them either to retain distinctly in their memories all the proofs concerning any probable truth, and that too in the same order and regular deduction of

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Our assent ought to be regulated by the grounds of probability.—We laid down the grounds of probability in the preceding chapter. They are the foundations on which our assent is built, and they are also the measure by which its several degrees are, or ought to be, regulated. Only we should note this: whatever grounds of probability there may be, they act on a mind that seeks truth and tries to judge rightly only as far as they appear to it, at least in the first judgment or inquiry the mind makes.

I admit that men do not always hold the opinions they firmly stick to because they actually see the reasons that first won them over. In many cases it is almost impossible, and in most very hard, even for those with remarkable memories, to retain all the proofs that made them embrace that side of the question after due examination.

It is enough that they once sifted the matter with care and fairness as far as they could. They should have searched into all the particulars they could think of that might throw any light on the question, and drawn up the account on the whole evidence to the best of their skill. Having once found, after as full and exact an inquiry as they can make, on which side the probability appeared to lie, they store the conclusion in their memories as a truth they have discovered. From then on they remain satisfied with the testimony of their memories. Their memories tell them that the proofs they once saw for this opinion make it deserve the degree of assent they give it.

These cannot always be actually in view, and then we must content ourselves with remembering that we once saw grounds for such a degree of assent.—This is all that most men are capable of doing in regulating their opinions and judgments. Otherwise one would have to demand either of two things. One is that they retain distinctly in their memories all the proofs concerning any probable truth, in the same order and regular chain of consequences in

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consequences in which they have formerly placed or seen them, which some times is enough to fill a large volume on one single question; or else they must require a man, for every opinion that he embraces, every day to examine the proofs; both which are impossible.

It is unavoidable therefore that the memory be relied on in the case, and that men be persuaded of several opinions, whereof the proofs are not actually in their thoughts; nay, which perhaps they are not able actually to recall. Without this the greatest part of men must be either very sceptics, or change every moment, and yield themselves up to whoever, having lately studied the question, offers them arguments, which, for want of memory, they are not able presently to answer.

4.16.3 *The ill consequence of this, if our former judgments were not rightly made.*—I cannot but own, that men's sticking to their past judgment, and adhering firmly to conclusions formerly made, is often the cause of great obstinacy in error and mistake. But the fault is not that they rely on their memories for what they have before well judged, but because they judged before they had well examined. May we not find a great number (not to say the greatest part) of men that think they have formed right judgments of several matters, and that for no other reason but because they never thought otherwise? who imagine themselves to have judged right only because they never questioned, never examined their own opinions?

Which is indeed to think they judged right because they never judged at all: and yet these of all men hold their opinions with the greatest stiffness; those being generally the most fierce and firm in their tenets who have least examined them. What we once know, we are certain is so; and we may be secure that there are no latent proofs undiscovered, which may overturn our knowledge or bring it in doubt.

But, in matters of probability, it is not in every case we can be sure that we have all the particulars before us that any way concern the question; and that there is no evidence behind, and yet unseen, which may cast the probability on the other side, and outweigh all that at present seems to preponderate with us. Who almost is there that hath the leisure, patience, and means,

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which they formerly placed or saw them, which is sometimes enough to fill a large volume on a single question. The other is that every man examine the proofs every day for every opinion he holds. Both are impossible.

It is unavoidable, therefore, that memory be relied on here. Men must be persuaded of several opinions whose proofs are not actually in their thoughts, and which they perhaps cannot actually recall. Without this, most men would have to be complete skeptics. Or else they would change their minds every moment, and give themselves up to anyone who had recently studied the question and offered them arguments that they could not answer on the spot for want of memory.

The bad consequence of this, if our former judgments were not rightly made.—I must admit that men's sticking to their past judgments and holding firmly to conclusions formerly reached is often the cause of great obstinacy in error and mistake. But the fault is not that they rely on their memories for what they have previously judged well. It is that they judged before they had examined well. Do we not find a great number of men, not to say most men, who think they have formed right judgments on several matters for no other reason than that they never thought otherwise? Who imagine they have judged rightly only because they never questioned or examined their own opinions?

This is in fact to think they judged rightly because they never judged at all. And yet these men, of all men, hold their opinions most stubbornly, for those who have examined their tenets least are generally the fiercest and firmest in them. What we once know, we are certain is so. We can be sure that there are no hidden proofs yet undiscovered that might overturn our knowledge or call it into doubt.

But in matters of probability we cannot in every case be sure that we have before us all the particulars that bear on the question in any way. There may be evidence still behind and unseen that could tip the probability to the other side and outweigh everything that at present seems to preponderate with us. Hardly anyone has the leisure, patience, and means to collect all the proofs con-

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to collect together all the proofs concerning most of the opinions he has, so as safely to conclude that he hath a clear and full view, and that there is no more to be alleged for his better information? And yet we are forced to determine ourselves on the one side or other.

The conduct of our lives, and the management of our great concerns, will not bear delay: for those depend, for the most part, on the determination of our judgment in points wherein we are not capable of certain and demonstrative knowledge, and wherein it is necessary for us to embrace the one side or the other.

4.16.4 *The right use of it, is mutual charity and forbearance.*—Since therefore it is unavoidable to the greatest part of men, if not all, to have several opinions without certain and indubitable proofs of their truth, and it carries too great an imputation of ignorance, lightness, or folly, for men to quit and renounce their former tenets presently upon the offer of an argument which they cannot immediately answer, and show the insufficiency of; it would methinks become all men to maintain peace, and the common offices of humanity and friendship, in the diversity of opinions; since we cannot reasonably expect that any one should readily and obsequiously quit his own opinion, and embrace ours with a blind resignation to an authority which the understanding of man acknowledges not.

For however it may often mistake, it can own no other guide but reason, nor blindly submit to the will and dictates of another. If he, you would bring over to your sentiments, be one that examines before he assents, you must give him leave at his leisure to go over the account again, and, recalling what is out of his mind, examine all the particulars, to see on which side the advantage lies: and if he will not think our arguments of weight enough to engage him anew in so much pains, it is but what we often do ourselves in the like case; and we should take it amiss if others should prescribe to us what points we should study.

And if he be one who takes his opinions upon trust, how can we imagine that he should renounce those tenets which time and custom have so settled in his mind, that he thinks them self-evident, and of an unquestionable certainty;

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cerning most of the opinions he holds, so as to conclude safely that he has a clear and full view, and that nothing more can be alleged to inform him better. And yet we are forced to decide on one side or the other.

The conduct of our lives and the management of our great concerns will not allow delay. For the most part these depend on how our judgment decides in matters where we are not capable of certain and demonstrative knowledge, and where we must necessarily embrace one side or the other.

The right use of this is mutual charity and forbearance.—It is unavoidable for most men, if not all, to hold several opinions without certain and indubitable proofs of their truth. It would also expose men too much to a charge of ignorance, fickleness, or folly if they abandoned and renounced their former tenets as soon as they were offered an argument they could not immediately answer and show to be insufficient. Therefore it would, I think, become all men to maintain peace and the common duties of humanity and friendship amid the diversity of opinions. For we cannot reasonably expect anyone to give up his own opinion readily and submissively and embrace ours in blind resignation to an authority that the human understanding does not acknowledge.

However often the understanding may err, it can own no other guide but reason, and cannot submit blindly to the will and dictates of another. Suppose the man you would bring over to your views is one who examines before he assents. Then you must allow him to go over the account again at his leisure, recall what has slipped from his mind, and examine all the particulars to see on which side the advantage lies. He may not think our arguments weighty enough to engage him again in so much trouble. But that is only what we often do ourselves in similar cases, and we would take it badly if others were to dictate to us what points we should study.

Now suppose he is one who takes his opinions on trust. Time and custom may have settled his tenets so firmly in his mind that he thinks them self-evident and of unquestionable certainty. Or he may take them to be impressions he has received

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or which he takes to be impressions he has received from God himself, or from men sent by him? How can we expect, I say, that opinions thus settled should be given up to the arguments or authority of a stranger or adversary; especially if there be any suspicion of interest or design, as there never fails to be where men find themselves ill treated?

We should do well to commiserate our mutual ignorance, and endeavour to remove it in all the gentle and fair ways of information; and not instantly treat others ill, as obstinate and perverse, because they will not renounce their own, and receive our opinions, or at least those we would force upon them, when it is more than probable that we are no less obstinate in not embracing some of theirs. For where is the man that has incontestable evidence of the truth of all that he holds, or of the falsehood of all he condemns; or can say, that he has examined to the bottom of his own or other men's opinions?

The necessity of believing without knowledge, nay, often upon very slight grounds, in this fleeting state of action and blindness we are in, should make us more busy and careful to inform ourselves than constrain others. At least those who have not thoroughly examined to the bottom all their own tenets, must confess they are unfit to prescribe to others; and are unreasonable in imposing that as truth on other men's belief which they themselves have not searched into, nor weighed the arguments of probability on which they should receive or reject it.

Those who have fairly and truly examined, and are thereby got past doubt in all the doctrines they profess and govern themselves by, would have a juster pretence to require others to follow them: but these are so few in number, and find so little reason to be magisterial in their opinions, that nothing insolent and imperious is to be expected from them: and there is reason to think that, if men were better instructed themselves, they would be less imposing on others.

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from God himself, or from men sent by him. How can we imagine that he will renounce them? How can we expect, I say, that opinions settled in this way will be given up to the arguments or authority of a stranger or an adversary? This is especially so if there is any suspicion of self-interest or ulterior design, as there never fails to be when men find themselves ill-treated.

We would do well to pity our mutual ignorance and try to remove it by every gentle and fair means of instruction. We should not immediately treat others badly as obstinate and perverse because they will not renounce their own opinions and accept ours, or at least those we would force on them. It is more than probable that we are no less obstinate in not embracing some of theirs. For where is the man who has incontestable evidence of the truth of everything he holds, or of the falsehood of everything he condemns? Or who can say that he has examined his own or other men's opinions to the bottom?

In this fleeting state of action and blindness we are in, we must believe without knowledge, often on very slight grounds. That necessity should make us busier and more careful in informing ourselves than in constraining others. At the least, those who have not thoroughly examined all their own tenets to the bottom must admit that they are unfit to dictate to others. They are unreasonable in imposing as truth on other men's belief what they themselves have not looked into. They have not even weighed the arguments of probability on which they should accept or reject it.

Some have fairly and truly examined all the doctrines they profess and govern themselves by, and have thereby got beyond doubt in them. They would have a better claim to require others to follow them. But these are so few in number, and find so little reason to be dogmatic in their opinions, that nothing insolent or domineering is to be expected from them. And there is reason to think that if men were better instructed themselves, they would be less inclined to impose on others.

MATTERS OF FACT AND TESTIMONY

Assent to matters of fact ranges from assurance to doubt, and testimony weakens with each remove.

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4.16.5 *Probability is either of matter of fact or speculation.*— But to return to the grounds of assent, and the several degrees of it; we are to take notice, that the propositions we receive upon inducements of probability are of two sorts; either concerning some particular existence, or, as it is usually termed, matter of fact, which falling under observation, is capable of human testimony; or else concerning things which, being beyond the discovery of our senses, are not capable of any such testimony.

4.16.6 *The concurrent experience of all other men with ours produces assurance approaching to knowledge.*— Concerning the first of these, viz. particular matter of fact.

First, Where any particular thing, consonant to the constant observation of ourselves and others in the like case, comes attested by the concurrent reports of all that mention it, we receive it as easily, and build as firmly upon it, as if it were certain knowledge; and we reason and act thereupon with as little doubt as if it were perfect demonstration. Thus, if all Englishmen who have occasion to mention it, should affirm that it froze in England the last winter, or that there were swallows seen there in the summer; I think a man could almost as little doubt of it as that seven and four are eleven.

The first, therefore, and highest degree of probability is, when the general consent of all men, in all ages, as far as it can be known, concurs with a man's constant and never-failing experience in like cases, to confirm the truth of any particular matter of fact attested by fair witnesses: such are all the stated constitutions and properties of bodies, and the regular proceedings of causes and effects in the ordinary course of nature. This we call an argument from the nature of things themselves.

For what our own and other men's constant observation has found always to be after the same manner, that we with reason conclude to be the effect of steady and regular causes, though they come not within the reach of our knowledge.

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Probability concerns either matters of fact or speculation.—But to return to the grounds of assent and its several degrees. We should note that the propositions we accept on inducements of probability are of two sorts. Some concern a particular existence, or, as it is usually called, matter of fact, which falls under observation and so is capable of human testimony. Others concern things that are beyond the discovery of our senses, and so are not capable of any such testimony.

The concurring experience of all other men with ours produces assurance approaching knowledge.—Concerning the first of these, namely, particular matter of fact:

First, a particular thing may be consistent with the constant observation of ourselves and others in similar cases, and come attested by the concurring reports of all who mention it. Then we accept it as easily, and build on it as firmly, as if it were certain knowledge. We reason and act on it with as little doubt as if it were a perfect demonstration. Suppose all Englishmen who had occasion to mention it were to affirm that it froze in England last winter, or that swallows were seen there in the summer. I think a man could hardly doubt it any more than he doubts that seven and four are eleven.

The first and highest degree of probability, therefore, is this. The general consent of all men in all ages, as far as it can be known, joins with a man's own constant and never-failing experience in similar cases to confirm the truth of some particular matter of fact attested by fair witnesses. Such are all the settled constitutions and properties of bodies, and the regular workings of causes and effects in the ordinary course of nature. This we call an argument from the nature of things themselves.

For what our own and other men's constant observation has always found to happen in the same way, we reasonably conclude to be the effect of steady and regular causes, even though those

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Thus, that fire warmed a man, made lead fluid, and changed the colour or consistency in wood or charcoal; that iron sunk in water, and swam in quicksilver: these and the like propositions about particular facts, being agreeable to our constant experience, as often as we have to do with these matters; and being generally spoke of (when mentioned by others) as things found constantly to be so, and therefore not so much as controverted by any body; we are put past doubt, that a relation affirming any such thing to have been, or any predication that it will happen again in the same manner, is very true.

These probabilities rise so near to a certainty, that they govern our thoughts as absolutely, and influence all our actions as fully, as the most evident demonstration; and, in what concerns us, we make little or no difference between them and certain knowledge. Our belief, thus grounded, rises to assurance.

4.16.7 *Unquestionable testimony and experience for the most part produce confidence.*—Secondly, The next degree of probability is, when I find by my own experience, and the agreement of all others that mention it, a thing to be, for the most part, so; and that the particular instance of it is attested by many and undoubted witnesses, *v. g.* history giving us such an account of men in all ages, and my own experience, as far as I had an opportunity to observe, confirming it, that most men prefer their private advantage to the public; if all historians that write of Tiberius say that Tiberius did so, it is extremely probable.

And in this case our assent has a sufficient foundation to raise itself to a degree which we may call confidence.

4.16.8 *Fair testimony, and the nature of the thing indifferent, produce also confident belief.*—Thirdly, In things that happen indifferently, as that a bird should fly this or that way; that it should thunder on a man's right or left hand, &c. when any particular matter of fact is vouched by the concurrent testimony of unsuspected witnesses, there our assent is also unavoidable.

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causes do not come within the reach of our knowledge.

Take these propositions: that fire warmed a man, melted lead, and changed the color or consistency of wood or charcoal; that iron sank in water and floated in mercury. These and similar propositions about particular facts agree with our constant experience whenever we deal with these matters. When others mention them, they generally speak of them as things always found to be so, and so nobody even disputes them. We are therefore put beyond doubt that an account affirming that any such thing has happened, or any prediction that it will happen again in the same way, is quite true.

These probabilities rise so close to certainty that they govern our thoughts as absolutely, and influence all our actions as fully, as the most evident demonstration. In what concerns us, we make little or no distinction between them and certain knowledge. Our belief, grounded in this way, rises to assurance.

Unquestionable testimony and experience for the most part produce confidence.—Second, the next degree of probability is this. I find, by my own experience and the agreement of all others who mention it, that a thing is for the most part so, and the particular instance of it is attested by many witnesses beyond doubt. For example, history gives us such an account of men in all ages that most men prefer their private advantage to the public good, and my own experience confirms it as far as I have had opportunity to observe. If all the historians who write about Tiberius say that Tiberius did so, it is extremely probable.[3]

And in this case our assent has sufficient foundation to rise to a degree we may call confidence.

Fair testimony, where the nature of the thing is neutral, also produces confident belief.—Third, some things could happen either way: a bird might fly this way or that, or it might thunder on a man's right hand or his left, and so on. When a particular matter of fact of this kind is vouched for by the concurring testimony of unsuspected witnesses, there too our assent is unavoidable.

3 Tiberius was Roman emperor from AD 14 to 37.

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Thus, that there is such a city in Italy as Rome; that, about one thousand seven hundred years ago, there lived in it a man called Julius Cæsar; that he was a general, and that he won a battle against another, called Pompey: this, though in the nature of the thing there be nothing for nor against it, yet being related by historians of credit, and contradicted by no one writer, a man cannot avoid believing it, and can as little doubt of it as he does of the being and actions of his own acquaintance, whereof he himself is a witness.

4.16.9 *Experiences and testimonies clashing, infinitely vary the degrees of probability.*—Thus far the matter goes easy enough. Probability upon such grounds carries so much evidence with it, that it naturally determines the judgment, and leaves us as little liberty to believe or disbelieve, as a demonstration does whether we will know or be ignorant. The difficulty is, when testimonies contradict common experience, and the reports of history and witnesses clash with the ordinary course of nature, or with one another; there it is where diligence, attention, and exactness are required, to form a right judgment, and to proportion the assent to the different evidence and probability of the thing; which rises and falls according as those two foundations of credibility, viz.

common observation in like cases, and particular testimonies in that particular instance, favour or contradict it. These are liable to so great a variety of contrary observations, circumstances, reports, different qualifications, tempers, designs, oversights, &c. of the reporters, that it is impossible to reduce to precise rules the various degrees wherein men give their assent. This only may be said in general, that as the arguments and proofs pro and con., upon due examination, nicely weighing every particular circumstance, shall to any one appear upon the whole matter, in a greater or less degree to preponderate on either side; so they are fitted to produce in the mind such different entertainment as we call belief, conjecture, guess, doubt, wavering, distrust, disbelief, &c.

4.16.10 *Traditional testimonies, the farther removed, the less their proofs.*—This is what concerns assent in

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Take these facts: that there is a city in Italy called Rome; that about seventeen hundred years ago a man called Julius Caesar lived in it; that he was a general, and that he won a battle against another called Pompey. In the nature of the thing there is nothing for or against this. Yet since credible historians report it and no writer at all contradicts it, a man cannot help believing it. He can doubt it as little as he doubts the existence and actions of his own acquaintances, to which he himself is a witness.

When experiences and testimonies clash, the degrees of probability vary infinitely.—So far the matter is easy enough. Probability on such grounds carries so much evidence with it that it naturally determines the judgment. It leaves us as little freedom to believe or disbelieve as a demonstration leaves us whether to know or be ignorant. The difficulty comes when testimonies contradict common experience, and the reports of history and witnesses clash with the ordinary course of nature, or with one another. That is where diligence, attention, and exactness are needed to form a right judgment, and to proportion our assent to the differing evidence and probability of the thing. The probability rises and falls according as those two foundations of credibility, namely,

common observation in similar cases and particular testimonies in that particular instance, favor or contradict it. These are subject to a great variety of contrary observations, circumstances, and reports. The reporters also differ greatly in their qualifications, temperaments, aims, oversights, and so on. So it is impossible to reduce to precise rules the various degrees in which men give their assent. Only this much can be said in general. After due examination and a careful weighing of every particular circumstance, the arguments and proofs pro and con will appear to anyone, on the whole, to preponderate in greater or lesser degree on one side or the other. According as they do, they are fitted to produce in the mind the different kinds of reception we call belief, conjecture, guess, doubt, wavering, distrust, disbelief, and so on.

Traditional testimonies: the farther removed, the weaker their proof.—This is what concerns assent in

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matters wherein testimony is made use of: concerning which, I think, it may not be amiss to take notice of a rule observed in the law of England; which is, that though the attested copy of a record be good proof, yet the copy of a copy, ever so well attested, and by ever so credible witnesses, will not be admitted as a proof in judicature. This is so generally approved as reasonable, and suited to the wisdom and caution to be used in our inquiry after material truths, that I never yet heard of any one that blamed it.

This practice, if it be allowable in the decisions of right and wrong, carries this observation along with it, viz. that any testimony, the farther off it is from the original truth, the less force and proof it has. The being and existence of the thing itself is what I call the original truth. A credible man vouching his knowledge of it is a good proof: but if another equally credible do witness it from his report, the testimony is weaker; and a third that attests the hearsay of an hearsay, is yet less considerable.

So that, in traditional truths, each remove weakens the force of the proof: and the more hands the tradition has successively passed through, the less strength and evidence does it receive from them. This I thought necessary to be taken notice of, because I find among some men the quite contrary commonly practised, who look on opinions to gain force by growing older; and what a thousand years since would not, to a rational man, contemporary with the first voucher, have appeared at all probable, is now urged as certain beyond all question, only because several have since, from him, said it one after another.

Upon this ground, propositions, evidently false, or doubtful enough in their first beginning, come by an inverted rule of probability, to pass for authentic truths; and those which found or deserved little credit from the mouths of their first authors, are thought to grow venerable by age, and are urged as undeniable.

4.16.11 *Yet history is of great use.*—I would not be thought here to lessen the credit and use of history; it is all the light we have in many cases, and we receive from it a great part of the useful truths we have, with a convincing evidence. I think nothing more valuable than the records of antiquity; I

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matters where testimony is used. On this subject I think it may not be amiss to note a rule observed in the law of England. An attested copy of a record is good proof. But a copy of a copy will not be admitted as proof in court, however well attested and however credible the witnesses. This is so generally approved as reasonable, and as suited to the wisdom and caution we should use in our inquiry into important truths, that I have never yet heard of anyone who criticized it.

If this practice is acceptable in deciding right and wrong, it carries this observation along with it: the farther any testimony is from the original truth, the less force and proof it has. What I call the original truth is the being and existence of the thing itself. A credible man vouching for his knowledge of it is a good proof. But if another, equally credible, testifies to it from his report, the testimony is weaker. And a third who attests to the hearsay of a hearsay counts for still less.

So in truths handed down by tradition, each remove weakens the force of the proof. The more hands the tradition has passed through in succession, the less strength and evidence it receives from them. I thought this necessary to point out because I find that some men commonly practice the very opposite. They regard opinions as gaining force by growing older. A thousand years ago, a rational man living at the same time as the first witness would not have thought a thing at all probable. Yet it is now pressed as certain beyond all question, only because several people since then have repeated it from him, one after another.

On this basis some propositions were evidently false, or doubtful enough, at their first beginnings. By an inverted rule of probability they come to pass for authentic truths. Propositions that found or deserved little credit from the mouths of their first authors are thought to grow venerable with age, and are pressed as undeniable.

Yet history is of great use.—I would not be thought here to lessen the credit and usefulness of history. In many cases it is all the light we have. From it we receive, with convincing evidence, a great part of the useful truths we possess. I think nothing more valuable than the records of antiquity, and I wish

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wish we had more of them, and more uncorrupted. But this truth itself forces me to say, that no probability can arise higher than its first original.

What has no other evidence than the single testimony of one only witness, must stand or fall by his only testimony, whether good, bad, or indifferent; and though cited afterward by hundreds of others, one after another, is so far from receiving any strength thereby, that it is only the weaker. Passion, interest, inadvertency, mistake of his meaning, and a thousand odd reasons, or capriccios, men's minds are acted by (impossible to be discovered) may make one man quote another man's words or meaning wrong. He that has but ever so little examined the citations of writers cannot doubt how little credit the quotations deserve, where the originals are wanting; and consequently how much less quotations of quotations can be relied on.

This is certain, that what in one age was affirmed upon slight grounds, can never after come to be more valid in future ages by being often repeated. But the farther still it is from the original, the less valid it is, and has always less force in the mouth or writing of him that last made use of it, than in his from whom he received it.

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we had more of them, and less corrupted. But this very truth compels me to say that no probability can rise higher than its first source.

Something may have no other evidence than the single testimony of one witness. Then it must stand or fall by his testimony alone, whether that testimony is good, bad, or indifferent. Hundreds of others may cite it afterward, one after another, but it is so far from gaining strength by this that it is only the weaker. One man may quote another man's words or meaning wrongly out of passion, interest, carelessness, or a misunderstanding of his meaning. Men's minds are also moved by a thousand odd reasons or whims that are impossible to discover. Anyone who has examined the citations of writers even a little cannot doubt how little credit quotations deserve where the originals are missing. Consequently he cannot doubt how much less quotations of quotations can be relied on.

This much is certain: what was affirmed on slight grounds in one age can never become more valid in later ages by being often repeated. On the contrary, the farther it is from the original, the less valid it is. It always has less force in the mouth or writing of the one who last used it than in that of the one from whom he received it.

ANALOGY AND MIRACLES

Where the senses cannot reach, analogy guides probability; miracles and revelation are special cases.

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4.16.12 *In things which sense cannot discover, analogy is the great rule of probability.*—The probabilities we have hitherto mentioned are only such as concern matter of fact, and such things as are capable of observation and testimony. There remains that other sort, concerning which men entertain opinions with variety of assent, though the things be such that, falling not under the reach of our senses, they are not capable of testimony. Such are, 1. The existence, nature, and operations of finite immaterial beings without us; as spirits, angels, devils, &c.

or the existence of material beings, which, either for their smallness in themselves, or remoteness from us, our senses cannot take notice of; as whether there be any plants, animals, and

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In things that the senses cannot discover, analogy is the great rule of probability.—The probabilities we have mentioned so far concern only matters of fact and things capable of observation and testimony. There remains the other sort. Men hold opinions about these things with varying degrees of assent, though the things do not fall within the reach of our senses and so are not capable of testimony. Such are, 1. The existence, nature, and operations of finite immaterial beings outside us, such as spirits, angels, devils, and so on;

or the existence of material beings that our senses cannot detect, either because they are so small in themselves or because they are so remote from us. An example is whether there are any plants, anim-

intelligent inhabitants in the planets, and other mansions of the vast universe. 2. Concerning the manner of operation in most parts of the works of nature: wherein, though we see the sensible effects, yet their causes are unknown, and we perceive not the ways and manner how they are produced. We see animals are generated, nourished, and move; the loadstone draws iron; and the parts of a candle, successively melting, turn into flame, and give us both light and heat.

These and the like effects we see and know; but the causes that operate, and the manner they are produced in, we can only guess, and probably conjecture. For these and the like, coming not within the scrutiny of human senses, cannot be examined by them, or be attested by any body; and therefore can appear more or less probable, only as they more or less agree to truths that are established in our minds, and as they hold proportion to other parts of our knowledge and observation. Analogy in these matters is the only help we have, and it is from that alone we draw all our grounds of probability.

Thus observing that the bare rubbing of two bodies violently one upon another produces heat, and very often fire itself, we have reason to think that what we call heat and fire consists in a violent agitation of the imperceptible minute parts of the burning matter: observing likewise that the different refractions of pellucid bodies produce in our eyes the different appearances of several colours, and also that the different ranging and laying the superficial parts of several bodies, as of velvet, watered silk, &c. does the like, we think it probable that the colour and shining of bodies is in them nothing but the different arrangement and refraction of their minute and insensible parts.

Thus finding in all parts of the creation, that fall under human observation, that there is a gradual connexion of one with another, without any great or discernible gaps between, in all that great variety of things we see in the world, which are so closely linked together, that in the several ranks of beings it is not easy to discover the bounds betwixt them: we have reason to be persuaded, that by such gentle steps things ascend upwards in degrees of perfection.

als, and intelligent inhabitants on the planets and in other dwelling places of the vast universe. 2. The manner of operation in most parts of the works of nature. Here we see the perceptible effects, but their causes are unknown, and we do not perceive the ways and manner in which the effects are produced. We see that animals are generated, nourished, and move. We see that the lodestone draws iron, and that the parts of a candle melt one after another, turn into flame, and give us both light and heat.

These and similar effects we see and know. But the causes at work, and the manner in which the effects are produced, we can only guess at and conjecture as probable. These and the like do not come within the scrutiny of human senses, so the senses cannot examine them and nobody can attest to them. Therefore they can appear more or less probable only as they agree more or less with truths established in our minds, and as they fit in with other parts of our knowledge and observation. Analogy is the only help we have in these matters, and from analogy alone we draw all our grounds of probability.

Thus we observe that merely rubbing two bodies violently against each other produces heat, and very often fire itself. So we have reason to think that what we call heat and fire consists in a violent agitation of the imperceptible minute parts of the burning matter. We likewise observe that the different refractions of transparent bodies produce in our eyes the different appearances of various colors. We also observe that different arrangements of the surface parts of various bodies, such as velvet and watered silk, do the same. So we think it probable that the color and shine of bodies is in them nothing but the different arrangement and refraction of their minute and imperceptible parts.

Thus in all the parts of creation that fall under human observation we find a gradual connection of one with another, without any great or discernible gaps between them. The great variety of things we see in the world are so closely linked together that it is not easy to discover the boundaries between the several ranks of beings. So we have reason to be persuaded that things ascend upward in degrees of perfection by similarly gentle steps.

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It is a hard matter to say where sensible and rational begin, and where insensible and irrational end: and who is there quick-sighted enough to determine precisely which is the lowest species of living things, and which is the first of those which have no life? Things, as far as we can observe, lessen and augment as the quantity does in a regular cone; where, though there be a manifest odds betwixt the bigness of the diameter at a remote distance, yet the difference between the upper and under, where they touch one another, is hardly discernible.

The difference is exceeding great between some men and some animals; but if we will compare the understanding and abilities of some men and some brutes, we shall find so little difference, that it will be hard to say, that that of the man is either clearer or larger.

Observing, I say, such gradual and gentle descents downwards in those parts of the creation that are beneath man, the rule of analogy may make it probable, that it is so also in things above us and our observation; and that there are several ranks of intelligent beings, excelling us in several degrees of perfection, ascending upwards towards the infinite perfection of the Creator, by gentle steps and differences, that are every one at no great distance from the next to it.

This sort of probability, which is the best conduct of rational experiments, and the rise of hypothesis, has also its use and influence: and a wary reasoning from analogy leads us often into the discovery of truths and useful productions which would otherwise lie concealed.

4.16.13 *One case where contrary experience lessens not the testimony.*—Though the common experience and the ordinary course of things have justly a mighty influence on the minds of men, to make them give or refuse credit to any thing proposed to their belief; yet there is one case, wherein the strangeness of the fact lessens not the assent to a fair testimony given of it. For where such supernatural events are suitable to ends aimed at by him, who has the power to change the course of nature, there, under such circumstances, they may be fitter to procure belief, by how much the more they are beyond or contrary to ordinary observation.

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It is hard to say where the sentient and rational begin, and where the insentient and irrational end. And who is sharp-sighted enough to determine precisely which is the lowest species of living things, and which is the first of those that have no life? As far as we can observe, things decrease and increase as the size does in a regular cone. At points far apart there is a manifest difference in the size of the diameter. But where the upper and lower sections touch each other, the difference between them is hardly discernible.

The difference between some men and some animals is exceedingly great. But if we compare the understanding and abilities of some men and some animals, we will find so little difference that it will be hard to say that the man's is either clearer or larger.

Observing, I say, such gradual and gentle descents downward in the parts of creation below man, the rule of analogy may make it probable that it is the same in things above us and beyond our observation. There may be several ranks of intelligent beings, surpassing us in various degrees of perfection. They would ascend toward the infinite perfection of the Creator by gentle steps and differences, each of them not far removed from the next.

This sort of probability, which is the best guide to rational experiments and the source of hypotheses, also has its use and influence. Cautious reasoning from analogy often leads us to discover truths and useful products that would otherwise remain hidden.

One case where contrary experience does not lessen testimony.—Common experience and the ordinary course of things rightly have a great influence on people's minds, making them give or refuse credit to anything proposed for their belief. Yet there is one case in which the strangeness of the fact does not lessen assent to fair testimony about it. Where such supernatural events suit the ends aimed at by him who has the power to change the course of nature, then, under those circumstances, the further they go beyond or against ordinary observation, the fitter they may be to produce belief.

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This is the proper case of miracles, which well attested do not only find credit themselves, but give it also to other truths, which need such confirmation.

4.16.14 *The bare testimony of revelation is the highest certainty.*—Besides those we have hitherto mentioned, there is one sort of propositions that challenge the highest degree of our assent upon bare testimony, whether the thing proposed agree or disagree with common experience, and the ordinary course of things, or no. The reason whereof is, because the testimony is of such an one as cannot deceive, nor be deceived, and that is of God himself. This carries with it an assurance beyond doubt, evidence beyond exception.

This is called by a peculiar name, revelation; and our assent to it, faith; which as absolutely determines our minds, and as perfectly excludes all wavering, as our knowledge itself; and we may as well doubt of our own being, as we can whether any revelation from God be true. So that faith is a settled and sure principle of assent and assurance, and leaves no manner of room for doubt or hesitation. Only we must be sure that it be a divine revelation, and that we understand it right: else we shall expose ourselves to all the extravagancy of enthusiasm, and all the error of wrong principles, if we have faith and assurance in what is not divine revelation.

And therefore in those cases, our assent can be rationally no higher than the evidence of its being a revelation, and that this is the meaning of the expressions it is delivered in. If the evidence of its being a revelation, or that this is its true sense, be only on probable proofs; our assent can reach no higher than an assurance or diffidence, arising from the more or less apparent probability of the proofs. But of faith, and the precedency it ought to have before other arguments of persuasion, I shall speak more hereafter, where I treat of it as it is ordinarily placed, in contradistinction to reason; though in truth it be nothing else but an assent founded on the highest reason.

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This is exactly the case of miracles. When they are well attested, they not only gain credit themselves but also lend it to other truths that need such confirmation.

The bare testimony of revelation is the highest certainty.—Besides those we have mentioned so far, there is one sort of proposition that claims the highest degree of our assent on bare testimony, whether or not the thing proposed agrees with common experience and the ordinary course of things. The reason is that the testimony comes from one who can neither deceive nor be deceived, and that is God himself. This carries with it an assurance beyond doubt, evidence beyond exception.

This is called by a special name, revelation, and our assent to it is called faith. Faith settles our minds as absolutely, and shuts out all wavering as completely, as our knowledge itself does. We could as well doubt our own existence as doubt whether a revelation from God is true. So faith is a settled and sure principle of assent and assurance, and leaves no room at all for doubt or hesitation. Only, we must be sure that it is a divine revelation, and that we understand it correctly. Otherwise, if we have faith and assurance in what is not divine revelation, we shall expose ourselves to all the extravagance of enthusiasm and all the error of wrong principles.

In those cases, therefore, our assent can rationally be no higher than the evidence that it is a revelation, and that this is the meaning of the words in which it is delivered. If the evidence that it is a revelation, or that this is its true sense, rests only on probable proofs, our assent can reach no higher than a confidence or a doubt, depending on how evident the probability of the proofs is. But I shall say more later about faith, and the precedence it ought to have over other arguments of persuasion, where I treat it as it is ordinarily set against reason—though in truth it is nothing else but an assent founded on the highest reason.

REASON

Reason finds and orders intermediate ideas, and it does so without needing syllogism.

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4.17.1 *Various significations of the word reason.*—The word reason in the English language has different significations: sometimes it is taken for true and clear principles; sometimes for clear and fair deductions from those principles; and sometimes for the cause, and particularly the final cause. But the consideration I shall have of it here is in signification different from all these; and that is, as it stands for a faculty in man, that faculty whereby man is supposed to be distinguished from beasts, and wherein it is evident he much surpasses them.

4.17.2 *Wherein reasoning consists.*—If general knowledge, as has been shown, consists in a perception of the agreement or disagreement of our own ideas; and the knowledge of the existence of all things without us (except only of a God, whose existence every man may certainly know and demonstrate to himself from his own existence) be had only by our senses: what room is there for the exercise of any other faculty, but outward sense and inward perception? What need is there of reason? Very much; both for the enlargement of our knowledge, and regulating our assent: for it hath to do both in knowledge and opinion, and is necessary and assisting to all our other intellectual faculties, and indeed contains two of them, viz.

sagacity and illation. By the one, it finds out; and by the other, it so orders the intermediate ideas, as to discover what connexion there is in each link of the chain, whereby the extremes are held together; and thereby, as it were, to draw into view the truth sought for, which is that which we call illation or inference, and consists in nothing but the perception of the connexion there is between the ideas, in each step of the deduction, whereby the mind comes to see either the certain agreement or disagreement of any two ideas, as in demonstration, in which it arrives at knowledge; or their probable connexion, on which it gives or withholds its assent, as in opinion.

Sense and intuition reach but a very little way. The greatest part of our knowledge depends upon deductions and intermediate ideas: and in those

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Various meanings of the word reason.—The word "reason" has different meanings in English. Sometimes it is taken for true and clear principles; sometimes for clear and fair deductions from those principles; and sometimes for the cause, particularly the final cause. But I shall consider it here in a sense different from all these: as it stands for a faculty in man—the faculty by which man is supposed to be distinguished from beasts, and in which he evidently far surpasses them.

What reasoning consists in.—As has been shown, general knowledge consists in a perception of the agreement or disagreement of our own ideas, and knowledge of the existence of all things outside us (except only God, whose existence every man can certainly know and demonstrate to himself from his own existence) is had only by our senses. If so, what room is there for the exercise of any other faculty besides outward sense and inward perception? What need is there of reason? A great deal, both for enlarging our knowledge and for regulating our assent. For reason has to do with both knowledge and opinion. It is necessary to all our other intellectual faculties and assists them all, and indeed it contains two of them, namely

sagacity and illation. By the one it finds things out. By the other it so orders the intermediate ideas as to discover what connection there is in each link of the chain by which the extremes are held together, and in this way, as it were, draws into view the truth being sought. This is what we call illation or inference. It consists in nothing but the perception of the connection between the ideas at each step of the deduction. By it the mind comes to see either the certain agreement or disagreement of any two ideas, as in demonstration, where it arrives at knowledge; or their probable connection, on which it gives or withholds its assent, as in opinion.

Sense and intuition reach only a very little way. The greatest part of our knowledge depends on deductions and intermediate ideas. And in those

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cases, where we are fain to substitute assent instead of knowledge, and take propositions for true, without being certain that they are so, we have need to find out, examine, and compare the grounds of their probability. In both these cases, the faculty which finds out the means, and rightly applies them to discover certainty in the one, and probability in the other, is that which we call reason.

For as reason perceives the necessary and indubitable connexion of all the ideas or proofs one to another, in each step of any demonstration that produces knowledge; so it likewise perceives the probable connexion of all the ideas or proofs one to another, in every step of a discourse, to which it will think assent due. This is the lowest degree of that which can be truly called reason. For where the mind does not perceive this probable connexion; where it does not discern whether there be any such connexion or no; there men's opinions are not the product of judgment, or the consequence of reason, but the effects of chance and hazard, of a mind floating at all adventures, without choice and without direction.

4.17.3 *Its four parts.*—So that we may in reason consider these four degrees; the first and highest is the discovering and finding out of truths; the second, the regular and methodical disposition of them, and laying them in a clear and fit order, to make their connexion and force be plainly and easily perceived; the third is the perceiving their connexion; and the fourth, a making a right conclusion.

These several degrees may be observed in any mathematical demonstration; it being one thing to perceive the connexion of each part, as the demonstration is made by another; another, to perceive the dependence of the conclusion on all the parts; a third, to make out a demonstration clearly and neatly one's self; and something different from all these, to have first found out these intermediate ideas or proofs by which it is made.

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cases where we have to settle for assent instead of knowledge, and take propositions as true without being certain that they are, we need to find out, examine, and compare the grounds of their probability. In both these cases, the faculty that finds out the means and rightly applies them, to discover certainty in the one and probability in the other, is what we call reason.

For just as reason perceives the necessary and indubitable connection of all the ideas or proofs with one another at each step of any demonstration that produces knowledge, so it likewise perceives their probable connection with one another at every step of a discourse to which it thinks assent is due. This is the lowest degree of what can truly be called reason. For where the mind does not perceive this probable connection—where it does not discern whether there is any such connection or not—there men's opinions are not the product of judgment or the consequence of reason. They are the effects of chance and hazard, of a mind drifting at random, without choice and without direction.

Its four parts.—So we may distinguish these four degrees in reason. The first and highest is discovering and finding out truths. The second is arranging them regularly and methodically, laying them out in a clear and fitting order so that their connection and force can be plainly and easily perceived. The third is perceiving their connection. The fourth is drawing a right conclusion.

These several degrees can be observed in any mathematical demonstration. It is one thing to perceive the connection of each part as someone else gives the demonstration; another to perceive how the conclusion depends on all the parts; a third to work out a demonstration clearly and neatly oneself; and something different from all these to have first found out the intermediate ideas or proofs by which it is made.

AGAINST SYLLOGISM

Locke argues that syllogism is not the chief instrument of reason and discovers nothing new.

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4.17.4 *Syllogism not the great instrument of reason.*—There is one thing more, which I shall desire to be considered concerning reason; and that is, whether syllogism, as is generally thought, be the proper instrument of it, and the most useful way of exercising this faculty. The causes I have to doubt are these:

First, Because syllogism serves our reason but in one only of the forementioned parts of it; and that is, to show the connexion of the proofs in any one instance, and no more: but in this it is of no great use, since the mind can conceive such connexion where it really is, as easily, nay, perhaps better, without it.

If we will observe the actings of our own minds, we shall find that we reason best and clearest when we only observe the connexion of the proof, without reducing our thoughts to any rule of syllogism. And therefore we may take notice, that there are many men that reason exceeding clear and rightly, who know not how to make a syllogism. He that will look into many parts of Asia and America, will find men reason there perhaps as acutely as himself, who yet never heard of a syllogism, nor can reduce any one argument to those forms: and I believe scarce any one makes syllogisms in reasoning within himself.

Indeed, syllogism is made use of on occasion, to discover a fallacy hid in a rhetorical flourish, or cunningly wrapt up in a smooth period; and, stripping an absurdity of the cover of wit and good language, show it in its naked deformity. But the weakness or fallacy of such a loose discourse it shows, by the artificial form it is put into, only to those who have thoroughly studied mode and figure, and have so examined the many ways that three propositions may be put together, as to know which of them does certainly conclude right, and which not, and upon what grounds it is that they do so.

All who have so far considered syllogism, as to see the reason why in three propositions laid

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Syllogism not the great instrument of reason.—There is one more thing about reason that I would like to have considered: whether syllogism, as is generally thought, is its proper instrument and the most useful way of exercising this faculty. My reasons for doubting it are these.

First, because syllogism serves our reason in only one of the parts just mentioned, namely, showing the connection of the proofs in any one instance, and no more. And even in this it is of no great use, since the mind can perceive such a connection, where it really exists, just as easily—indeed perhaps better—without it.

If we observe the workings of our own minds, we shall find that we reason best and most clearly when we simply observe the connection of the proof, without reducing our thoughts to any rule of syllogism. And so we may notice that many people who do not know how to make a syllogism reason exceedingly clearly and correctly. Anyone who looks into many parts of Asia and America will find people there who reason perhaps as sharply as he does himself, and yet have never heard of a syllogism and cannot reduce a single argument to those forms. And I believe hardly anyone makes syllogisms when reasoning within himself.

It is true that syllogism is sometimes used to expose a fallacy hidden in a rhetorical flourish or cunningly wrapped up in a smooth sentence, and, by stripping an absurdity of its cover of wit and fine language, to show it in its naked ugliness. But by the artificial form it puts such loose discourse into, it shows the weakness or fallacy only to those who have thoroughly studied mode and figure. They must have examined the many ways three propositions can be put together closely enough to know which of them certainly conclude correctly and which do not, and on what grounds they do so.[4]

I grant that all who have considered syllogism far enough to see why, when three propositions are

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together in one form the conclusion will be certainly right, but in another, not certainly so; I grant are certain of the conclusion they draw from the premises in the allowed modes and figures. But they who have not so far looked into those forms, are not sure, by virtue of syllogism, that the conclusion certainly follows from the premises; they only take it to be so by an implicit faith in their teachers, and a confidence in those forms of argumentation; but this is still but believing, not being certain.

Now if, of all mankind, those who can make syllogisms are extremely few in comparison of those who cannot; and if, of those few who have been taught logic, there is but a very small number who do any more than believe that syllogisms in the allowed modes and figures do conclude right, without knowing certainly that they do so; if syllogisms must be taken for the only proper instrument of reason and means of knowledge; it will follow, that before Aristotle there was not one man that did or could know any thing by reason; and that since the invention of syllogisms, there is not one of ten thousand that doth.

But God has not been so sparing to men to make them barely two-legged creatures, and left it to Aristotle to make them rational, *i. e.* those few of them that he could get so to examine the grounds of syllogisms, as to see, that in above threescore ways, that three propositions may be laid together, there are but about fourteen wherein one may be sure that the conclusion is right; and upon what grounds it is, that in these few the conclusion is certain, and in the other not. God has been more bountiful to mankind than so.

He has given them a mind that can reason, without being instructed in methods of syllogizing: the understanding is not taught to reason by these rules; it has a native faculty to perceive the coherence or incoherence of its ideas, and can range them right, without any such perplexing repetitions. I say not this any way to lessen Aristotle, whom I look on as one of the greatest men among the ancients; whose large

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laid together in one form, the conclusion will certainly be right, but in another not certainly so, are certain of the conclusions they draw from the premises in the allowed modes and figures. But those who have not looked that far into these forms are not sure, by virtue of syllogism, that the conclusion certainly follows from the premises. They only take it to be so through an implicit faith in their teachers and a confidence in those forms of argument. And this is still only believing, not being certain.

Now of all mankind, those who can make syllogisms are extremely few compared with those who cannot. And of the few who have been taught logic, only a very small number do anything more than believe that syllogisms in the allowed modes and figures conclude correctly, without knowing for certain that they do. So if syllogisms must be taken as the only proper instrument of reason and means of knowledge, it will follow that before Aristotle there was not one man who did or could know anything by reason, and that since the invention of syllogisms, not one in ten thousand does.[5]

But God has not been so sparing to men as to make them merely two-legged creatures and leave it to Aristotle to make them rational—that is, those few of them whom he could get to examine the grounds of syllogisms closely enough to see two things. They had to see that, of the more than sixty ways in which three propositions can be laid together, there are only about fourteen in which one can be sure the conclusion is right. And they had to see on what grounds the conclusion is certain in these few and not in the others. God has been more generous to mankind than that.

He has given them a mind that can reason without being instructed in methods of syllogizing. The understanding is not taught to reason by these rules. It has a native faculty to perceive the coherence or incoherence of its ideas, and can arrange them correctly without any such confusing repetitions. I do not say this in any way to belittle Aristotle. I regard him as one of the greatest men of antiquity, whose broad views, acuteness and pen-

4 Mode (or mood) and figure are the technical classifications of syllogisms in scholastic logic.
5 Aristotle first set out the theory of the syllogism, in the *Prior Analytics*.

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views, acuteness, and penetration of thought, and strength of judgment, few have equalled: and who in this very invention of forms of argumentation, wherein the conclusion may be shown to be rightly inferred, did great service against those who were not ashamed to deny any thing.

And I readily own, that all right reasoning may be reduced to his forms of syllogism. But yet I think, without any diminution to him, I may truly say, that they are not the only, nor the best way of reasoning, for the leading of those into truth who are willing to find it, and desire to make the best use they may of their reason, for the attainment of knowledge. And he himself, it is plain, found out some forms to be conclusive, and others not, not by the forms themselves, but by the original way of knowledge, *i. e.* by the visible agreement of ideas.

Tell a country gentlewoman that the wind is southwest, and the weather lowering, and like to rain, and she will easily understand it is not safe for her to go abroad thin clad, in such a day, after a fever: she clearly sees the probable connexion of all these, viz. southwest wind, and clouds, rain, wetting, taking cold, relapse, and danger of death, without tying them together in those artificial and cumbersome fetters of several syllogisms, that clog and hinder the mind, which proceeds from one part to another quicker and clearer without them; and the probability which she easily perceives in things thus in their native state would be quite lost, if this argument were managed learnedly, and proposed in mode and figure.

For it very often confounds the connexion; and, I think, every one will perceive in mathematical demonstrations, that the knowledge gained thereby comes shortest and clearest without syllogisms.

Inference is looked on as the great act of the rational faculty, and so it is when it is rightly made; but the mind, either very desirous to enlarge its knowledge, or very apt to favour the sentiments it has once imbibed, is very forward to make inferences, and therefore often makes too much haste, before it perceives the connexion of the ideas that must hold the extremes together.

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etration of thought, and strength of judgment few have equaled. And in this very invention of forms of argument, in which the conclusion can be shown to be rightly inferred, he did great service against those who were not ashamed to deny anything.

And I readily admit that all right reasoning can be reduced to his forms of syllogism. Still, without detracting from him, I think I can truly say that they are neither the only nor the best way of reasoning for leading into truth those who are willing to find it and want to make the best use they can of their reason for the attainment of knowledge. And he himself, it is plain, found out that some forms are conclusive and others not, not by the forms themselves but by the original way of knowledge, that is, by the visible agreement of ideas.

Tell a country gentlewoman that the wind is southwest and the sky dark and threatening rain, and she will easily understand that it is not safe for her to go out lightly dressed on such a day after a fever. She clearly sees the probable connection of all these, namely southwest wind, clouds, rain, getting wet, catching cold, relapse, and danger of death. She does so without tying them together in the artificial and cumbersome fetters of several syllogisms, which clog and hinder the mind; it moves from one part to the next faster and more clearly without them. And the probability she easily perceives in things in this natural state would be quite lost if the argument were handled learnedly and set out in mode and figure.

For this very often confuses the connection. And I think everyone will find, in mathematical demonstrations, that the knowledge gained by them comes most quickly and clearly without syllogisms.

Inference is regarded as the great act of the rational faculty, and so it is when it is rightly made. But the mind, being either very eager to enlarge its knowledge or very inclined to favor the opinions it has once absorbed, is very quick to make inferences. It therefore often makes them too hastily, before it perceives the connection of the ideas that must hold the extremes together.

To infer is nothing but, by virtue of one proposition laid down as true, to draw in another as true, *i. e.* to see or suppose such a connexion of the two ideas of the inferred proposition, *v. g.* let this be the proposition laid down, "men shall be punished in another world," and from thence be inferred this other, "then men can determine themselves." The question now is to know whether the mind has made this inference right or no; if it has made it by finding out the intermediate ideas, and taken a view of the connexion of them, placed in a due order, it has proceeded rationally, and made a right inference.

If it has done it without such a view, it has not so much made an inference that will hold, or an inference of right reason, as shown a willingness to have it be, or be taken for such.

But in neither case is it syllogism that discovered those ideas, or showed the connexion of them, for they must be both found out, and the connexion every where perceived, before they can rationally be made use of in syllogism; unless it can be said, that any idea, without considering what connexion it hath with the two other, whose agreement should be shown by it, will do well enough in a syllogism, and may be taken at a venture for the *medius terminus*, to prove any conclusion.

But this nobody will say, because it is by virtue of the perceived agreement of the intermediate idea with the extremes, that the extremes are concluded to agree; and therefore each intermediate idea must be such as in the whole chain hath a visible connexion with those two it has been placed between, or else thereby the conclusion cannot be inferred or drawn in: for wherever any link of the chain is loose, and without connexion, there the whole strength of it is lost, and it hath no force to infer or draw in any thing.

In the instance above mentioned, what is it shows the force of the inference, and consequently the reasonableness of it, but a view of the connexion of all the intermediate ideas that draw in the conclusion or proposition inferred? *v. g.* men shall be punished———God the punisher———just punishment———the punished guilty———could have done otherwise———freedom———self-determination: by which chain of ideas thus

To infer is nothing but to draw in one proposition as true by virtue of another laid down as true; that is, to see or suppose such a connection between the two ideas of the inferred proposition. For example, let this be the proposition laid down: “Men shall be punished in another world”; and from it let this other be inferred: “Then men can determine themselves.” The question now is whether the mind has made this inference correctly or not. If it has made it by finding out the intermediate ideas and taking a view of their connection, placed in due order, it has proceeded rationally and made a right inference.

If it has done so without such a view, it has not so much made an inference that will hold, or an inference of right reason, as shown a willingness that it should be one, or be taken for one.

But in neither case was it syllogism that discovered those ideas or showed their connection. They must be found out, and their connection perceived at every point, before they can rationally be used in a syllogism. Otherwise it would have to be said that any idea, without considering what connection it has with the other two whose agreement it is supposed to show, will do well enough in a syllogism, and can be picked at random as the *medius terminus* (middle term) to prove any conclusion at all.

But nobody will say this, because it is by virtue of the perceived agreement of the intermediate idea with the extremes that the extremes are concluded to agree. So each intermediate idea must be such that, in the whole chain, it has a visible connection with the two it has been placed between; otherwise the conclusion cannot be inferred or drawn in by it. For wherever any link of the chain is loose and unconnected, the whole strength of the chain is lost, and it has no force to infer or draw in anything.

In the example above, what shows the force of the inference, and consequently its reasonableness, but a view of the connection of all the intermediate ideas that draw in the conclusion, or proposition inferred? For example: men shall be punished———God the punisher———just punishment———the punished guilty———could have done otherwise———freedom———self-determination. By this

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visibly linked together in train, *i. e.* each intermediate idea agreeing on each side with those two it is immediately placed between, the ideas of men and self-determination appear to be connected, *i. e.* this proposition, men can determine themselves, is drawn in, or inferred from this, that they shall be punished in the other world.

For here the mind, seeing the connexion there is between the idea of men's punishment in the other world and the idea of God's punishing; between God punishing and the justice of the punishment; between justice of the punishment and guilt; between guilt and the power to do otherwise; between a power to do otherwise and freedom; and between freedom and self-determination; sees the connexion between men and self-determination.

Now I ask whether the connexion of the extremes be not more clearly seen in this simple and natural disposition, than in the perplexed repetitions and jumble of five or six syllogisms? I must beg pardon for calling it jumble, till somebody shall put these ideas into so many syllogisms, and then say that they are less jumbled, and their connexion more visible, when they are transposed and repeated, and spun out to a greater length in artificial forms than in that short and natural plain order they are laid down in here, wherein every one may see it; and wherein they must be seen before they can be put into a train of syllogisms.

For the natural order of the connecting ideas must direct the order of the syllogisms; and a man must see the connexion of each intermediate idea with those that it connects, before he can with reason make use of it in a syllogism. And when all those syllogisms are made, neither those that are, nor those that are not logicians will see the force of the argumentation, *i. e.* the connexion of the extremes, one jot the better.

[For those that are not men of art, not knowing the true forms of syllogism, nor the reasons of them, cannot know whether they are made in right and conclusive modes and figures or no, and so are not at all helped by the forms they are put into; though by them the natural order, wherein the mind could judge of their respective connexion, being disturbed, renders the illation

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chain of ideas visibly linked together in sequence —that is, with each intermediate idea agreeing on either side with the two it is immediately placed between—the ideas of men and self-determination are seen to be connected. That is, this proposition, "men can determine themselves," is drawn in, or inferred, from this one: that they shall be punished in the other world.

For here the mind sees the connection between the idea of men's punishment in the other world and the idea of God's punishing; between God's punishing and the justice of the punishment; between the justice of the punishment and guilt; between guilt and the power to do otherwise; between a power to do otherwise and freedom; and between freedom and self-determination. Seeing these, it sees the connection between men and self-determination.

Now I ask whether the connection of the extremes is not more clearly seen in this simple and natural arrangement than in the confusing repetitions and jumble of five or six syllogisms. I must beg pardon for calling it a jumble, until somebody puts these ideas into that many syllogisms and then says that they are less jumbled, and their connection more visible, when they are transposed, repeated, and spun out to greater length in artificial forms. I mean less jumbled than in the short, natural, plain order in which they are laid down here, in which everyone can see the connection, and in which they must be seen before they can be put into a train of syllogisms.

For the natural order of the connecting ideas must direct the order of the syllogisms. A man must see the connection of each intermediate idea with those it connects before he can reasonably use it in a syllogism. And when all those syllogisms have been made, neither logicians nor non-logicians will see the force of the argument—that is, the connection of the extremes—one bit better.

[For those who are not trained in the art do not know the true forms of syllogism or the reasons for them. So they cannot know whether the syllogisms are made in correct and conclusive modes and figures or not, and are not helped at all by the forms they are put into. Indeed, since those forms disturb the natural order in which the mind could

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much more uncertain than without them.] And as for the logicians themselves, they see the connexion of each intermediate idea with those it stands between (on which the force of the inference depends) as well before as after the syllogism is made, or else they do not see it at all.

For a syllogism neither shows nor strengthens the connexion of any two ideas immediately put together, but only by the connexion seen in them shows what connexion the extremes have one with another. But what connexion the intermediate has with either of the extremes in that syllogism, that no syllogism does or can show.

That the mind only doth or can perceive as they stand there in that juxta-position only by its own view, to which the syllogistical form it happens to be in gives no help or light at all; it only shows that if the intermediate idea agrees with those it is on both sides immediately applied to, then those two remote ones, or as they are called extremes, do certainly agree, and therefore the immediate connexion of each idea to that which it is applied to on each side, on which the force of the reasoning depends, is as well seen before as after the syllogism is made, or else he that makes the syllogism could never see it at all.

This, as has been already observed, is seen only by the eye, or the perceptive faculty of the mind, taking a view of them laid together in a juxta-position; which view of any two it has equally, whenever they are laid together in any proposition, whether that proposition be placed as a major, or a minor in a syllogism or no.

Of what use then are syllogisms? I answer, their chief and main use is in the schools, where men are allowed without shame to deny the agreement of ideas that do manifestly agree; or out of the schools, to those who from thence have learned without shame to deny the connexion of ideas, which even to themselves is visible.

But to an ingenious searcher after truth, who has no other aim but to find it, there is no need of any such form to force the allowing of the inference: the truth and reasonableness of it is better seen in ranging of the ideas in a simple and plain order:

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judge of the connections, they make the inference much more uncertain than it would be without them.] As for the logicians themselves, they see the connection of each intermediate idea with those it stands between (on which the force of the inference depends) just as well before the syllogism is made as after—or else they do not see it at all.

For a syllogism neither shows nor strengthens the connection of any two ideas immediately put together. It only shows, by the connection seen in them, what connection the extremes have with one another. But what connection the intermediate idea has with either of the extremes in that syllogism, no syllogism does or can show.

That, the mind alone does or can perceive, as the ideas stand there side by side, solely by its own view. The syllogistic form they happen to be in gives it no help or light at all. The form only shows that if the intermediate idea agrees with the ideas it is immediately applied to on both sides, then those two remote ones—the extremes, as they are called—certainly agree. And therefore the immediate connection of each idea with the one it is applied to on either side, on which the force of the reasoning depends, is seen just as well before the syllogism is made as after. Otherwise the person who makes the syllogism could never see it at all.

This, as has already been observed, is seen only by the eye, or perceptive faculty, of the mind, taking a view of the ideas laid together side by side. And the mind has this view of any two ideas equally whenever they are laid together in any proposition, whether or not that proposition is placed as a major or a minor premise in a syllogism.

Of what use, then, are syllogisms? I answer: their chief and main use is in the schools, where men are allowed without shame to deny the agreement of ideas that plainly agree. Or, outside the schools, their use is with those who have learned there to deny without shame the connection of ideas that is visible even to themselves.

But a thoughtful seeker after truth, whose only aim is to find it, has no need of any such form to compel him to accept the inference. Its truth and reasonableness are better seen by arranging the ideas in a simple and plain order. That is why

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and hence it is, that men, in their own inquiries after truth, never use syllogisms to convince themselves, [or in teaching others to instruct willing learners.] Because, before they can put them into a syllogism, they must see the connexion that is between the intermediate idea and the two other ideas it is set between and applied to, to show their agreement; and when they see that, they see whether the inference be good or no, and so syllogism comes too late to settle it.

For to make use again of the former instance, I ask whether the mind, considering the idea of justice, placed as an intermediate idea between the punishment of men and the guilt of the punished, (and, till it does so consider it, the mind cannot make use of it as a *medius terminus*) does not as plainly see the force and strength of the inference as when it is formed into a syllogism?

To show it in a very plain and easy example; let *animal* be the intermediate idea or *medius terminus* that the mind makes use of to show the connexion of *homo* and *vivens:* I ask, whether the mind does not more readily and plainly see that connexion in the simple and proper position of the connecting idea in the middle; thus,

Homo———Animal———Vivens.

than in this perplexed one,

Animal———Vivens———Homo———Animal:

which is the position these ideas have in a syllogism, to show the connexion between *homo* and *vivens* by the intervention of *animal*.

Indeed, syllogism is thought to be of necessary use, even to the lovers of truth, to show them the fallacies that are often concealed in florid, witty, or involved discourses. But that this is a mistake will appear if we consider, that the reason why sometimes men, who sincerely aim at truth, are imposed upon by such loose, and as they are called, rhetorical discourses, is, that their fancies being struck with some lively metaphorical representations, they neglect to observe, or do not easily perceive, what are the true ideas upon which the inference depends.

Now to show such men the weakness of such an argumentation, there needs no more but to strip

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men, in their own inquiries after truth, never use syllogisms to convince themselves [or, in teaching others, to instruct willing learners]. For before they can put ideas into a syllogism, they must see the connection between the intermediate idea and the two other ideas it is set between and applied to, in order to show their agreement. And when they see that, they see whether the inference is good or not, so syllogism comes too late to settle it.

To use the earlier example again, I ask this. The mind considers the idea of justice, placed as an intermediate idea between the punishment of men and the guilt of the punished (and until it considers it in this way, the mind cannot use it as a *medius terminus*). Does it not then see the force and strength of the inference just as plainly as when it is formed into a syllogism?

To show it with a very plain and easy example, let *animal* be the intermediate idea, or *medius terminus*, that the mind uses to show the connection of *homo* (man) and *vivens* (living). I ask whether the mind does not see that connection more readily and plainly in the simple and proper position of the connecting idea in the middle, thus:

Homo———Animal———Vivens.

than in this confusing one:

Animal———Vivens———Homo———Animal:

which is the position these ideas have in a syllogism, to show the connection between *homo* and *vivens* through the intervention of *animal*.

It is true that syllogism is thought to be of necessary use even to lovers of truth, to show them the fallacies that are often concealed in florid, witty, or convoluted discourse. But that this is a mistake will appear if we consider why men who sincerely aim at truth are sometimes taken in by such loose —or, as they are called, rhetorical—discourses. It is because their imagination is struck by some lively metaphorical images, so that they neglect to notice, or do not easily perceive, what the true ideas are on which the inference depends.

Now to show such men the weakness of such an argument, nothing more is needed than to strip it

it of the superfluous ideas, which, blended and confounded with those on which the inference depends, seems to show a connexion where there is none; or at least to hinder the discovery of the want of it; and then to lay the naked ideas, on which the force of the argumentation depends, in their due order, in which position the mind, taking a view of them, sees what connexion they have, and so is able to judge of the inference without any need of a syllogism at all.

I grant that mode and figure is commonly made use of in such cases, as if the detection of the incoherence of such loose discourses were wholly owing to the syllogistical form; and so I myself formerly thought, till upon a stricter examination I now find, that laying the intermediate ideas naked in their due order shows the incoherence of the argumentation better than syllogism; not only as subjecting each link of the chain to the immediate view of the mind in its proper place, whereby its connexion is best observed;

but also because syllogism shows the incoherence only to those (who are not one of ten thousand) who perfectly understand mode and figure, and the reason upon which those forms are established: whereas a due and orderly placing of the ideas upon which the inference is made makes every one, whether logician or not logician, who understands the terms, and hath the faculty to perceive the agreement or disagreement of such ideas (without which, in or out of syllogism, he cannot perceive the strength or weakness, coherence or incoherence, of the discourse) see the want of connexion in the argumentation, and the absurdity of the inference.

And thus I have known a man unskilful in syllogism, who at first hearing could perceive the weakness and inconclusiveness of a long, artificial, and plausible discourse, wherewith others better skilled in syllogism have been misled. And I believe there are few of my readers who do not know such. And indeed if it were not so, the debates of most princes' counsels, and the business of assemblies, would be in danger to be mismanaged, since those who are relied upon, and have usually a great stroke in them, are not always such who have the good luck to be

of the superfluous ideas. Blended and confused with those on which the inference depends, these seem to show a connection where there is none, or at least hinder the discovery that there is none. Then one need only lay the bare ideas on which the force of the argument depends in their proper order. In that position the mind, taking a view of them, sees what connection they have, and so is able to judge the inference without any need of a syllogism at all.

I grant that mode and figure are commonly used in such cases, as if the detection of the incoherence of such loose discourse were owed entirely to the syllogistic form. I myself once thought so too. But on a stricter examination I now find that laying out the intermediate ideas bare in their proper order shows the incoherence of the argument better than syllogism does. It does so not only because it subjects each link of the chain to the mind's immediate view in its proper place, where its connection is best observed;

but also because syllogism shows the incoherence only to those (not one in ten thousand) who perfectly understand mode and figure and the reasoning on which those forms are established. A proper and orderly placing of the ideas on which the inference is made, by contrast, lets everyone see the lack of connection in the argument and the absurdity of the inference—logician or not—provided he understands the terms and has the faculty of perceiving the agreement or disagreement of such ideas. (Without that faculty he cannot perceive the strength or weakness, coherence or incoherence, of the discourse, in syllogism or out of it.)

In this way I have known a man unskilled in syllogism who, on first hearing, could perceive the weakness and inconclusiveness of a long, artful, and plausible discourse by which others more skilled in syllogism had been misled. And I believe few of my readers do not know such people. Indeed, if it were not so, the debates of most princes' councils and the business of assemblies would be in danger of being mismanaged. For those who are relied on in them, and usually have a great say, are not always people who have had

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perfectly knowing in the forms of syllogism, or expert in mode and figure.

And if syllogism were the only or so much as the surest way to detect the fallacies of artificial discourses, I do not think that all mankind, even princes, in matters that concern their crowns and dignities, are so much in love with falsehood and mistake, that they would every where have neglected to bring syllogism into the debates of moment, or thought it ridiculous so much as to offer them in affairs of consequence; a plain evidence to me, that men of parts and penetration, who were not idly to dispute at their ease, but were to act according to the result of their debates, and often pay for their mistakes with their heads or fortunes, found those scholastic forms were of little use to discover truth or fallacy, whilst both the one and the other might be shown, and better shown, without them, to those who would not refuse to see what was visibly shown them.

Secondly, Another reason that makes me doubt whether syllogism be the only proper instrument of reason in the discovery of truth is, that of whatever use mode and figure is pretended to be in the laying open of fallacy (which has been above considered) those scholastic forms of discourse are not less liable to fallacies than the plainer ways of argumentation; and for this I appeal to common observation, which has always found these artificial methods of reasoning more adapted to catch and entangle the mind, than to instruct and inform the understanding.

And hence it is that men, even when they are baffled and silenced in this scholastic way, are seldom or never convinced, and so brought over to the conquering side; they perhaps acknowledge their adversary to be the more skilful disputant, but rest nevertheless persuaded of the truth on their side; and go away, worsted as they are, with the same opinion they brought with them, which they could not do if this way of argumentation carried light and conviction with it, and made men see where the truth lay. And therefore syllogism has been thought more proper for the attaining victory in dispute, than for the discovery or confirmation of truth in fair inquiries.

And if it be certain that fallacies can be couched in syllogism, as it cannot be denied, it must be

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the good luck to be thoroughly versed in the forms of syllogism or expert in mode and figure.

And if syllogism were the only way, or even just the surest way, to detect the fallacies of artful discourse, I do not think that all mankind—even princes, in matters concerning their crowns and dignities—are so much in love with falsehood and error that they would everywhere have neglected to bring syllogism into debates of importance, or thought it ridiculous even to offer syllogisms in affairs of consequence. This is plain evidence to me that men of ability and insight, who were not idly disputing at their leisure but had to act on the outcome of their debates, and who often paid for their mistakes with their heads or their fortunes, found those scholastic forms of little use for discovering truth or fallacy. Both the one and the other could be shown, and better shown, without them to those who would not refuse to see what was plainly shown them.

Secondly, another reason makes me doubt whether syllogism is the only proper instrument of reason in discovering truth. Whatever use mode and figure are claimed to have in laying open fallacy (which has been considered above), those scholastic forms of discourse are no less liable to fallacies than plainer ways of argument. For this I appeal to common observation, which has always found these artificial methods of reasoning better suited to catch and entangle the mind than to instruct and inform the understanding.

That is why men, even when they are baffled and silenced in this scholastic way, are seldom or never convinced and so brought over to the winning side. They may acknowledge their opponent to be the more skillful debater, but they remain persuaded nonetheless that the truth is on their side. And they go away, beaten as they are, with the same opinion they came with. They could not do this if this way of arguing carried light and conviction with it and made men see where the truth lay. And so syllogism has been thought better suited to winning victory in dispute than to discovering or confirming truth in fair inquiry.

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something else, and not syllogism, that must discover them.

I have had experience how ready some men are, when all the use which they have been wont to ascribe to any thing is not allowed, to cry out, that I am for laying it wholly aside. But, to prevent such unjust and groundless imputations, I tell them, that I am not for taking away any helps to the understanding, in the attainment of knowledge. And if men skilled in, and used to syllogisms, find them assisting to their reason in the discovery of truth, I think they ought to make use of them.

All that I aim at is, that they should not ascribe more to those forms than belongs to them; and think that men have no use, or not so full an use of their reasoning faculty without them. Some eyes want spectacles to see things clearly and distinctly; but let not those that use them therefore say, nobody can see clearly without them: those who do so will be thought in favour of art (which perhaps they are beholden to) a little too much to depress and discredit nature. Reason, by its own penetration, where it is strong and exercised, usually sees quicker and clearer without syllogism.

If use of those spectacles has so dimmed its sight that it cannot without them see consequences or inconsequences in argumentation, I am not so unreasonable as to be against using them. Every one knows what best fits his own sight. But let him not thence conclude all in the dark, who use not just the same helps that he finds a need of.

4.17.5 *Helps little in demonstration, less in probability.*—But however it be in knowledge, I think I may truly say, it is of far less, or no use at all in probabilities. For, the assent there being to be determined by the preponderancy, after due weighing of all the proofs, with all circumstances on both sides, nothing is so unfit to assist the mind in that as syllogism; which running away with one assumed probability, or one topical argument, pursues that till it has led the mind quite out of sight of the thing under consideration; and forcing it upon some remote difficulty, holds it fast there, entangled perhaps, and as it were manacled in the chain of

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And if it is certain that fallacies can be couched in syllogisms—as cannot be denied—it must be something else, and not syllogism, that discovers them.

I know from experience how quick some people are, when not all the use they have been accustomed to attribute to something is granted, to cry out that I want to throw it out altogether. But to head off such unjust and groundless charges, I tell them that I am not for taking away any aids to the understanding in the attainment of knowledge. And if men skilled in syllogisms and used to them find them helpful to their reason in discovering truth, I think they should use them.

All I aim at is that they should not attribute more to those forms than belongs to them, or think that men have no use, or not so full a use, of their reasoning faculty without them. Some eyes need spectacles to see things clearly and distinctly; but let those who use them not therefore say that nobody can see clearly without them. Those who do so will be thought to run down and discredit nature a little too much in favor of art (to which they are perhaps indebted). Reason, by its own penetration, where it is strong and well exercised, usually sees faster and more clearly without syllogism.

If the use of those spectacles has so dimmed its sight that it cannot see without them what does or does not follow in an argument, I am not so unreasonable as to be against using them. Everyone knows what best suits his own sight. But let him not conclude from this that all those are in the dark who do not use exactly the same aids he finds he needs.

Helps little in demonstration, less in probability.—But however it may be in knowledge, I think I can truly say that syllogism is of far less use, or none at all, in probabilities. For there assent must be determined by the preponderance of evidence, after all the proofs have been duly weighed, with all the circumstances on both sides; and nothing is so unfit to help the mind in that as syllogism. It runs off with one assumed probability, or one topical argument, and pursues it until it has led the mind quite out of sight of the matter under consideration. Then, forcing the mind onto some remote difficulty, it holds it fast there—entangled, per-

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syllogisms, without allowing it the liberty, much less affording it the helps, requisite to show on which side, all things considered, is the greater probability.

4.17.6 *Serves not to increase our knowledge, but fence with it.* —But let it help us (as perhaps may be said) in convincing men of their errors and mistakes: (and yet I would fain see the man that was forced out of his opinion by dint of syllogism) yet still it fails our reason in that part, which, if not its highest perfection, is yet certainly its hardest task, and that which we most need its help in; and that is the finding out of proofs, and making new discoveries. The rules of syllogism serve not to furnish the mind with those intermediate ideas that may show the connexion of remote ones.

This way of reasoning discovers no new proofs, but is the art of marshalling and ranging the old ones we have already. The forty-seventh proposition of the first book of Euclid is very true; but the discovery of it, I think, not owing to any rules of common logic. A man knows first, and then he is able to prove syllogistically. So that syllogism comes after knowledge, and then a man has little or no need of it. But it is chiefly by the finding out those ideas that show the connexion of distant ones, that our stock of knowledge is increased, and that useful arts and sciences are advanced.

Syllogism at best is but the art of fencing with the little knowledge we have, without making any addition to it. And if a man should employ his reason all this way, he will not do much otherwise than he, who having got some iron out of the bowels of the earth, should have it beaten up all into swords, and put into his servants' hands to fence with, and bang one another. Had the king of Spain employed the hands of his people, and his Spanish iron so, he had brought to light but little of that treasure that lay so long hid in the entrails of America.

And I am apt to think, that he who shall employ all the force of his reason only in brandishing of syllogisms, will discover very little of that mass of knowledge which lies yet concealed in the

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haps, and as it were manacled in the chain of syllogisms. It does not allow the mind the freedom, much less give it the aids, needed to show on which side, all things considered, the greater probability lies.

It serves not to increase our knowledge, but to fence with it.—But suppose, as may perhaps be said, that it helps us convince men of their errors and mistakes (and yet I would like to see the man who was forced out of his opinion by dint of syllogism). Even so, it fails our reason in the part that is, if not its highest perfection, certainly its hardest task and the one in which we most need its help: finding out proofs and making new discoveries. The rules of syllogism do not supply the mind with the intermediate ideas that may show the connection of remote ones.

This way of reasoning discovers no new proofs; it is the art of marshaling and arranging the old ones we already have. The forty-seventh proposition of the first book of Euclid is quite true, but its discovery was not, I think, owed to any rules of ordinary logic. A man first knows, and then he is able to prove syllogistically. So syllogism comes after knowledge, and by then a man has little or no need of it. But it is chiefly by finding out the ideas that show the connection of distant ones that our stock of knowledge is increased and useful arts and sciences are advanced.[6]

Syllogism at best is only the art of fencing with the little knowledge we have, without adding anything to it. And if a man employed his reason entirely in this way, he would be doing much the same as someone who got some iron out of the bowels of the earth and had it all beaten into swords and put into his servants' hands, for them to fence with and bang one another. Had the king of Spain used his people's hands and his Spanish iron that way, he would have brought to light very little of the treasure that lay hidden so long in the depths of America.[7]

And I am inclined to think that anyone who uses all the force of his reason only in brandishing syllogisms will discover very little of that mass of knowledge that still lies hidden in the secret re-

6 Euclid, *Elements* 1.47, is the Pythagorean theorem.
7 Locke alludes to the Spanish Crown's gold and silver mining in the Americas.

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secret recesses of nature; and which, I am apt to think, native rustic reason (as it formerly has done) is likelier to open a way to, and add to the common stock of mankind, rather than any scholastic proceeding by the strict rules of mode and figure.

4.17.7 *Other helps should be sought.*—I doubt not, nevertheless, but there are ways to be found out to assist our reason in this most useful part; and this the judicious Hooker encourages me to say, who in his Eccl. Pol. l. i.

§ 6, speaks thus: "If there might be added the right helps of true art and learning (which helps, I must plainly confess, this age of the world, carrying the name of a learned age, doth neither much know, nor generally regard) there would undoubtedly be almost as much difference in maturity of judgment between men therewith inured, and that which men now are, as between men that are now and innocents." I do not pretend to have found, or discovered here any of those right helps of art this great man of deep thought mentions; but this is plain, that syllogism, and the logic now in use, which were as well known in his days, can be none of those he means.

It is sufficient for me, if by a discourse, perhaps something out of the way, I am sure as to me wholly new and unborrowed, I shall have given occasion to others to cast about for new discoveries, and to seek in their own thoughts for those right helps of art, which will scarce be found, I fear, by those who servilely confine themselves to the rules and dictates of others. For beaten tracks lead this sort of cattle (as an observing Roman calls them) whose thoughts reach only to imitation, *non quo eundum est, sed quo itur*.

But I can be bold to say, that this age is adorned with some men of that strength of judgment, and largeness of comprehension, that if they would employ their thoughts on this subject, could open new and undiscovered ways to the advancement of knowledge.

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cesses of nature. That knowledge, I am inclined to think, is more likely to be opened up and added to the common stock of mankind by native, unpolished reason (as has happened before) than by any scholastic procedure following the strict rules of mode and figure.

Other helps should be sought.—Nevertheless, I do not doubt that ways can be found to assist our reason in this most useful part. The judicious Hooker encourages me to say so. In his *Ecclesiastical Polity*, book 1,[8]

section 6, he says this: "If there might be added the right helps of true art and learning (which helps, I must plainly confess, this age of the world, carrying the name of a learned age, neither much knows nor generally regards), there would undoubtedly be almost as much difference in maturity of judgment between men trained in them and men as they now are, as there is between men as they now are and people with severe intellectual disabilities." I do not claim to have found or discovered here any of those right helps of art that this great and deep-thinking man mentions. But this much is plain: syllogism and the logic now in use, which were just as well known in his day, cannot be any of the helps he means.

It is enough for me if, by a discussion perhaps somewhat out of the ordinary—certainly, as far as I am concerned, wholly new and not borrowed—I have given others occasion to look about for new discoveries and to seek in their own thoughts for those right helps of art. I fear these will hardly be found by those who slavishly confine themselves to the rules and dictates of others. For beaten tracks lead this sort of cattle (as an observant Roman calls them), whose thoughts reach only to imitation, *non quo eundum est, sed quo itur*—"not where one ought to go, but where people are going."[9]

But I can venture to say that this age is graced with some men of such strength of judgment and breadth of understanding that, if they turned their thoughts to this subject, they could open new and undiscovered ways to the advancement of knowledge.

8 Richard Hooker (1554–1600), author of *Of the Laws of Ecclesiastical Polity*.
9 Seneca, *On the Happy Life* 1.

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4.17.8 *We reason about particulars.*—Having here had an occasion to speak of syllogism in general, and the use of it in reasoning, and the improvement of our knowledge, it is fit, before I leave this subject, to take notice of one manifest mistake in the rules of syllogism, viz. that no syllogistical reasoning can be right and conclusive, but what has at least one general proposition in it. As if we could not reason, and have knowledge about particulars: whereas, in truth, the matter rightly considered, the immediate object of all our reasoning and knowledge is nothing but particulars.

Every man's reasoning and knowledge is only about the ideas existing in his own mind, which are truly, every one of them, particular existences; and our knowledge and reason about other things is only as they correspond with those of our particular ideas. So that the perception of the agreement or disagreement of our particular ideas is the whole and utmost of all our knowledge. Universality is but accidental to it, and consists only in this, that the particular ideas about which it is are such, as more than one particular thing can correspond with, and be represented by.

But the perception of the agreement or disagreement of any two ideas, consequently our own knowledge is equally clear and certain, whether either, or both, or neither of those ideas be capable of representing more real beings than one, or no. One thing more I crave leave to offer about syllogism, before I leave it, viz. may one not upon just ground inquire, whether the form syllogism now has is that which in reason it ought to have? For the *medius terminus* being to join the extremes, i.

e. *the intermediate idea by its intervention, to show the agreement or disagreement of the two in question: would not the position of the medius terminus be more natural, and show the agreement and disagreement of the extremes clearer and better, if it were placed in the middle between them? which might be easily done by transposing the propositions, and making the* medius terminus the predicate of the first, and the subject of the second. As thus,

"Omnis homo est animal, Omne animal est vivens, Ergo omnis homo est vivens.

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We reason about particulars.—Having had occasion here to speak of syllogism in general and its use in reasoning and in improving our knowledge, it is fitting, before I leave the subject, to point out one obvious mistake in the rules of syllogism: namely, that no syllogistic reasoning can be right and conclusive unless it has at least one general proposition in it. As if we could not reason, and have knowledge, about particulars! Whereas in truth, rightly considered, the immediate object of all our reasoning and knowledge is nothing but particulars.

Every man's reasoning and knowledge is only about the ideas existing in his own mind, which are truly, every one of them, particular existences. Our knowledge and reasoning about other things extend only so far as those things correspond with our particular ideas. So the perception of the agreement or disagreement of our particular ideas is the whole and utmost extent of all our knowledge. Universality is only incidental to it, and consists merely in this: the particular ideas it concerns are such that more than one particular thing can correspond with them and be represented by them.

But the perception of the agreement or disagreement of any two ideas, and consequently our own knowledge, is equally clear and certain whether either, both, or neither of those ideas is capable of representing more than one real being. One more thing I ask leave to offer about syllogism before I leave it, namely: may one not justly ask whether the form syllogism now has is the form it ought in reason to have? For the *medius terminus* is meant to join the extremes; that is,

the intermediate idea is meant, by its intervention, to show the agreement or disagreement of the two in question. Would not the position of the *medius terminus* then be more natural, and show the agreement or disagreement of the extremes more clearly and better, if it were placed in the middle between them? This could easily be done by transposing the propositions and making the *medius terminus* the predicate of the first and the subject of the second, thus:

“Every man is an animal; every animal is a living thing; therefore every man is a living thing.”

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"Omne corpus est extensum et solidum, Nullum extensum et solidum est pura extensio, Ergo corpus non est pura extensio."	"Every body is extended and solid; nothing extended and solid is pure extension; therefore body is not pure extension."
I need not trouble my reader with instances in syllogisms, whose conclusions are particular. The same reason holds for the same form in them, as well as in the general.	I need not trouble my reader with examples of syllogisms whose conclusions are particular. The same reasoning holds for the same form in them as in the general ones.

WHERE REASON FAILS

Reason fails for lack of ideas, obscurity, missing proofs, false principles, and doubtful words.

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4.17.9 1. *Reason fails us for want of ideas.*—Reason, though it penetrates into the depths of the sea and earth, elevates our thoughts as nigh as the stars, and leads us through the vast spaces and large rooms of this mighty fabric, yet it comes far short of the real extent of even corporeal being, and there are many instances wherein it fails us: as,	1. *Reason fails us for lack of ideas.*—Reason penetrates into the depths of the sea and the earth, raises our thoughts almost as high as the stars, and leads us through the vast spaces and broad rooms of this mighty structure. Yet it falls far short of the real extent even of corporeal being, and there are many cases in which it fails us. For instance:
First, It perfectly fails us where our ideas fail. It neither does nor can extend itself farther than they do. And therefore wherever we have no ideas, our reasoning stops, and we are at an end of our reckoning; and if at any time we reason about words, which do not stand for any ideas, it is only about those sounds, and nothing else.	First, it fails us completely where our ideas fail. It does not and cannot reach any farther than they do. So wherever we have no ideas, our reasoning stops, and we are at the end of our reckoning. And if we ever reason about words that do not stand for any ideas, our reasoning is only about those sounds and nothing else.
4.17.10 2. *Because of obscure and imperfect ideas.*—Secondly, Our reason is often puzzled and at a loss, because of the obscurity, confusion, or imperfection of the ideas it is employed about; and there we are involved in difficulties and contradictions. Thus, not having any perfect idea of the least extension of matter nor of infinity, we are at a loss about the divisibility of matter; but having perfect, clear, and distinct ideas of number, our reason meets with none of those inextricable difficulties in numbers, nor finds itself involved in any contradictions about them.	2. *Because of obscure and imperfect ideas.*—Secondly, our reason is often puzzled and at a loss because of the obscurity, confusion, or imperfection of the ideas it works with, and there we get tangled in difficulties and contradictions. Thus, since we have no perfect idea of the smallest extension of matter, or of infinity, we are at a loss about the divisibility of matter. But since we have perfect, clear, and distinct ideas of number, our reason meets none of those inextricable difficulties in numbers, and never finds itself caught in contradictions about them.
Thus, we, having but imperfect ideas of the operations of our minds, and of the beginning of motion or thought how the mind produces either of them in us, and much more imperfect yet of the operation of God; run into great difficulties about free created agents, which reason cannot well extricate itself out of.	In the same way, because we have only imperfect ideas of the operations of our minds, and of the beginning of motion or thought—how the mind produces either of them in us—and still more imperfect ideas of the operation of God, we run into great difficulties about free created agents, from which reason cannot easily extricate itself.

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4.17.11 3. *For want of intermediate ideas.*—Thirdly, Our reason is often at a stand, because it perceives not those ideas which could serve to show the certain or probable agreement or disagreement of any other two ideas; and in this some men's faculties far outgo others. Till algebra, that great instrument and instance of human sagacity was discovered, men with amazement looked on several of the demonstrations of ancient mathematicians, and could scarce forbear to think the finding several of those proofs to be something more than human.

4.17.12 4. *Because of wrong principles.*—Fourthly, The mind, by proceeding upon false principles, is often engaged in absurdities and difficulties, brought into straits and contradictions, without knowing how to free itself; and in that case it is in vain to implore the help of reason, unless it be to discover the falsehood and reject the influence of those wrong principles. Reason is so far from clearing the difficulties which the building upon false foundations brings a man into, that if he will pursue it, it entangles him the more, and engages him deeper in perplexities.

4.17.13 5. *Because of doubtful terms.*—Fifthly, As obscure and imperfect ideas often involve our reason, so, upon the same ground, do dubious words, and uncertain signs, often in discourses and arguings, when not warily attended to, puzzle men's reason, and bring them to a nonplus. But these two latter are our fault, and not the fault of reason. But yet the consequences of them are nevertheless obvious; and the perplexities or errors they fill men's minds with are every where observable.

4.17.14 *Our highest degree of knowledge is intuitive, without reasoning.*—Some of the ideas that are in the mind are so there, that they can be by themselves immediately compared one with another: and in these the mind is able to perceive that they agree or disagree as clearly as that it has them. Thus the mind perceives that an arch of a circle is less than the whole circle, as clearly as it does the idea of a circle; and this, therefore, as has been said, I call intuitive knowledge, which is certain, beyond all doubt, and needs no probation, nor can have any; this being the highest of all human certainty.

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3. *For lack of intermediate ideas.*—Thirdly, our reason is often at a standstill because it does not perceive the ideas that could serve to show the certain or probable agreement or disagreement of two other ideas; and in this some people's faculties far surpass others'. Until algebra—that great instrument and example of human ingenuity—was discovered, people looked with amazement at several of the demonstrations of the ancient mathematicians, and could hardly help thinking that finding some of those proofs was something more than human.

4. *Because of wrong principles.*—Fourthly, the mind, by proceeding on false principles, often gets entangled in absurdities and difficulties, driven into tight corners and contradictions, without knowing how to free itself. In that case it is useless to call on reason for help, except to discover the falsehood of those wrong principles and throw off their influence. Reason is so far from clearing up the difficulties that building on false foundations brings a man into that, if he keeps following it, it entangles him all the more and draws him deeper into perplexity.

5. *Because of doubtful terms.*—Fifthly, just as obscure and imperfect ideas often entangle our reason, so, on the same grounds, dubious words and uncertain signs, when not carefully watched in discussions and arguments, often puzzle people's reason and bring them to a dead end. But these last two are our fault, not the fault of reason. Still, their consequences are plain enough, and the perplexities and errors they fill people's minds with can be seen everywhere.

Our highest degree of knowledge is intuitive, without reasoning.—Some of the ideas in the mind are there in such a way that they can be compared directly with one another by themselves; and in these the mind can perceive that they agree or disagree as clearly as it perceives that it has them. Thus the mind perceives that an arc of a circle is less than the whole circle as clearly as it perceives the idea of a circle. This, as I have said, I call intuitive knowledge. It is certain beyond all doubt, needs no proof and cannot have any, and it is the highest of all human certainty.

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In this consists the evidence of all those maxims, which nobody has any doubt about, but every man (does not, as is said, only assent to, but) knows to be true as soon as ever they are proposed to his understanding. In the discovery of, and assent to these truths, there is no use of the discursive faculty, no need of reasoning, but they are known by a superior and higher degree of evidence.

And such, if I may guess at things unknown, I am apt to think that angels have now, and the spirits of just men made perfect shall have, in a future state, of thousands of things, which now either wholly escape our apprehensions, or which, our short sighted reason having got some faint glimpse of, we in the dark grope after.

4.17.15 *The next is demonstration by reasoning.*—But though we have, here and there, a little of this clear light, some sparks of bright knowledge; yet the greatest part of our ideas are such, that we cannot discern their agreement or disagreement by an immediate comparing them. And in all these we have need of reasoning, and must, by discourse and inference, make our discoveries. Now of these there are two sorts, which I shall take the liberty to mention here again.

First, Those whose agreement or disagreement, though it cannot be seen by an immediate putting them together, yet may be examined by the intervention of other ideas which can be compared with them. In this case, when the agreement or disagreement of the intermediate idea, on both sides with those which we would compare, is plainly discerned, there it amounts to a demonstration, whereby knowledge is produced; which, though it be certain, yet it is not so easy nor altogether so clear as intuitive knowledge. Because in that there is barely one simple intuition, wherein there is no room for any the least mistake or doubt; the truth is seen all perfectly at once.

In demonstration, it is true, there is intuition too, but not altogether at once; for there must be a remembrance of the intuition of the agreement of the medium, or intermediate idea, with that we compared it with before, when we compare it

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This is what makes all those maxims evident which nobody doubts, but which everyone (does not merely assent to, as people say, but) knows to be true as soon as they are put to his understanding. In discovering and assenting to these truths there is no use of the discursive faculty, no need of reasoning: they are known by a superior and higher degree of evidence.

And if I may guess at things unknown, I am inclined to think that this is the kind of knowledge that angels have now, and that the spirits of just men made perfect will have in a future state, of thousands of things that now either escape our grasp entirely, or that our short-sighted reason has caught some faint glimpse of and we grope after in the dark.[10]

The next is demonstration by reasoning.—But though we have a little of this clear light here and there, some sparks of bright knowledge, most of our ideas are such that we cannot discern their agreement or disagreement by comparing them directly. In all these we need reasoning, and must make our discoveries by discourse and inference. Now there are two sorts of these, which I will take the liberty of mentioning here again.

First, there are those whose agreement or disagreement, though it cannot be seen by putting them directly together, can still be examined through the intervention of other ideas that can be compared with them. In this case, when the agreement or disagreement of the intermediate idea with each of the two we want to compare is plainly discerned, it amounts to a demonstration, which produces knowledge. That knowledge is certain, but it is not as easy, or altogether as clear, as intuitive knowledge. For in intuitive knowledge there is just one simple intuition, which leaves no room for the least mistake or doubt: the truth is seen perfectly, all at once.

In demonstration, it is true, there is intuition too, but not all at once. When we compare the medium, or intermediate idea, with the second idea, we must remember the intuition of its agreement with the idea we compared it with before; and

10 "The spirits of just men made perfect" is from Hebrews 12:23.

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with the other; and where there may be many mediums, there the danger of the mistake is the greater. For each agreement or disagreement of the ideas must be observed and seen in each step of the whole train, and retained in the memory just as it is; and the mind must be sure that no part of what is necessary to make up the demonstration is omitted or overlooked.

This makes some demonstrations long and perplexed, and too hard for those who have not strength of parts distinctly to perceive, and exactly carry, so many particulars orderly in their heads. And even those who are able to master such intricate speculations are fain sometimes to go over them again, and there is need of more than one review before they can arrive at certainty. But yet where the mind clearly retains the intuition it had of the agreement of any idea with another, and that with a third, and that with a fourth, &c. there the agreement of the first and the fourth is a demonstration, and produces certain knowledge, which may be called rational knowledge, as the other is intuitive.

4.17.16 *To supply the narrowness of this, we have nothing but judgment upon probable reasoning.*—Secondly, There are other ideas, whose agreement or disagreement can no otherwise be judged of but by the intervention of others, which have not a certain agreement with the extremes, but an usual or likely one; and in these it is that the judgment is properly exercised, which is the acquiescing of the mind, that any ideas do agree, by comparing them with such probable mediums.

This, though it never amounts to knowledge, no not to that which is the lowest degree of it; yet sometimes the intermediate ideas tie the extremes so firmly together, and the probability is so clear and strong, that assent as necessarily follows it as knowledge does demonstration. The great excellency and use of the judgment is to observe right, and take a true estimate of the force and weight of each probability; and then, casting them up all right together, choose the side which has the overbalance.

4.17.17 *Intuition, demonstration, judgment.*—Intuitive knowledge is the perception of the certain agreement or disagreement of two ideas immediately compared together.

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where there are many mediums, the danger of mistake is greater. For each agreement or disagreement of the ideas must be observed and seen at every step of the whole chain, and kept in memory exactly as it is; and the mind must be sure that no part of what is needed to make up the demonstration has been omitted or overlooked.

This makes some demonstrations long and complicated, and too hard for those who lack the mental strength to perceive distinctly, and carry accurately and in order in their heads, so many particulars. Even those who can master such intricate speculations sometimes have to go over them again, and need more than one review before they can reach certainty. Still, where the mind clearly retains the intuition it had of the agreement of one idea with another, and of that with a third, and of that with a fourth, and so on, the agreement of the first and the fourth is a demonstration and produces certain knowledge. This may be called rational knowledge, as the other is called intuitive.

To supply the narrowness of this, we have nothing but judgment based on probable reasoning.—Secondly, there are other ideas whose agreement or disagreement can be judged only through the intervention of others that have, not a certain agreement with the extremes, but a usual or likely one. It is in these that judgment is properly exercised. Judgment is the mind's settling on the view that certain ideas agree, by comparing them with such probable mediums.

This never amounts to knowledge—not even to its lowest degree. Yet sometimes the intermediate ideas tie the extremes together so firmly, and the probability is so clear and strong, that assent follows it as necessarily as knowledge follows demonstration. The great excellence and use of judgment is to observe correctly and make a true estimate of the force and weight of each probability, and then, adding them all up correctly, to choose the side that outweighs the other.

Intuition, demonstration, judgment.—Intuitive knowledge is the perception of the certain agreement or disagreement of two ideas compared directly with each other.

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Rational knowledge is the perception of the certain agreement or disagreement of any two ideas, by the intervention of one or more other ideas.

Judgment is the thinking or taking two ideas to agree or disagree, by the intervention of one or more ideas, whose certain agreement or disagreement with them it does not perceive, but hath observed to be frequent and usual.

4.17.18 *Consequences of words, and consequences of ideas.*—Though the deducing one proposition from another, or making inferences in words, be a great part of reason, and that which it is usually employed about; yet the principal act of ratiocination is the finding the agreement or disagreement of two ideas one with another, by the intervention of a third. As a man, by a yard, finds two houses to be of the same length, which could not be brought together to measure their equality by juxta-position. Words have their consequences, as the signs of such ideas: and things agree or disagree, as really they are; but we observe it only by our ideas.

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Rational knowledge is the perception of the certain agreement or disagreement of any two ideas through the intervention of one or more other ideas.

Judgment is thinking or taking two ideas to agree or disagree through the intervention of one or more ideas whose certain agreement or disagreement with them the mind does not perceive, but has observed to be frequent and usual.

Consequences of words, and consequences of ideas.—Although deducing one proposition from another, or making inferences in words, is a large part of reason, and what it is usually occupied with, the principal act of reasoning is finding the agreement or disagreement of two ideas with each other through the intervention of a third. In the same way a man uses a yardstick to find that two houses are the same length, when they could not be brought together to measure their equality by setting them side by side. Words have their consequences as the signs of such ideas; and things agree or disagree as they really are; but we observe this only through our ideas.

FOUR SORTS OF ARGUMENT

Locke names arguments ad verecundiam, ad ignorantiam, ad hominem, and ad judicium.

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4.17.19 *Four sorts of arguments.*—Before we quit this subject, it may be worth our while a little to reflect on four sorts of arguments that men, in their reasonings with others, do ordinarily make use of to prevail on their assent or at least so to awe them, as to silence their opposition.

1. *Ad verecundiam.*—First, the first is to allege the opinions of men, whose parts, learning, eminency, power, or some other cause has gained a name, and settled a reputation in the common esteem with some kind of authority. When men are established in any kind of dignity, it is thought a breach of modesty for others to derogate any way from it, and question the authority of men who are in possession of it.

This is apt to be censured, as carrying with it too much of pride, when a man does not readily yield

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Four sorts of arguments.—Before we leave this subject, it may be worth reflecting a little on four sorts of arguments that people ordinarily use in reasoning with others, to win their assent, or at least to overawe them into silencing their opposition.

1. *Ad verecundiam.*—The first is to cite the opinions of men whose abilities, learning, eminence, power, or some other cause has won them a name and established their reputation in the general esteem with a kind of authority. When men are established in any kind of dignity, it is thought a breach of modesty for others to detract from it in any way, and to question the authority of those who hold it.[11]

A man is apt to be censured as too proud when he does not readily yield to the verdict of approved

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to the determination of approved authors, which is wont to be received with respect and submission by others; and it is looked upon as insolence for a man to set up and adhere to his own opinion against the current stream of antiquity; or to put it in the balance against that of some learned doctor, or otherwise approved writer. Whoever backs his tenets with such authorities, thinks he ought thereby to carry the cause, and is ready to style it impudence in any one who shall stand out against them. This, I think, may be called *argumentum ad verecundiam*.

4.17.20 2. *Ad ignorantiam.*—Secondly, Another way that men ordinarily use to drive others, and force them to submit to their judgments, and receive the opinion in debate, is to require the adversary to admit what they allege as a proof, or to assign a better. And this I call *argumentum ad ignorantiam*.

4.17.21 3. *Ad hominem.*—Thirdly, A third way is to press a man with consequences drawn from his own principles or concessions. This is already known under the name of *argumentum ad hominem*.

4.17.22 4. *Ad judicium.*—Fourthly, The fourth is the using of proofs drawn from any of the foundations of knowledge or probability. This I call *argumentum ad judicium*. This alone, of all the four, brings true instruction with it, and advances us in our way to knowledge. For, 1. It argues not another man's opinions to be right, because I, out of respect, or any other consideration but that of conviction, will not contradict him. 2. It proves not another man to be in the right way, nor that I ought to take the same with him, because I know not a better. 3. Nor does it follow that another man is in the right way, because he has shown me that I am in the wrong.

I may be modest, and therefore not oppose another man's persuasion: I may be ignorant, and not be able to produce a better: I may be in an error, and another may show me that I am so. This may dispose me, perhaps, for the reception of truth, but helps me not to it; that must come from proofs and arguments, and light arising

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authors, which others usually receive with respect and submission. It is regarded as insolence for a man to set up and stick to his own opinion against the prevailing stream of antiquity, or to weigh it against that of some learned doctor or otherwise approved writer. Whoever backs his tenets with such authorities thinks that this ought to win him the case, and is ready to call it impudence in anyone who holds out against them. This, I think, may be called *argumentum ad verecundiam*.

2. *Ad ignorantiam.*—Secondly, another way people commonly use to drive others, and force them to submit to their judgments and accept the opinion under debate, is to require the opponent either to admit what they offer as a proof or to come up with a better one. This I call *argumentum ad ignorantiam*.

3. *Ad hominem.*—Thirdly, a third way is to press a man with consequences drawn from his own principles or concessions. This is already known by the name *argumentum ad hominem*.

4. *Ad judicium.*—Fourthly, the fourth is using proofs drawn from any of the foundations of knowledge or probability. This I call *argumentum ad judicium*. This alone of the four brings real instruction with it and advances us on our way to knowledge. For: 1. It does not show that another man's opinions are right because I, out of respect or any consideration other than conviction, will not contradict him. 2. It does not prove that another man is on the right path, or that I ought to take the same one, because I do not know a better. 3. Nor does it follow that another man is on the right path because he has shown me that I am on the wrong one.

I may be modest, and therefore not oppose another man's belief; I may be ignorant, and unable to produce a better one; I may be in error, and another may show me that I am. This may perhaps dispose me to receive the truth, but it does not help me to it. That must come from proofs and arguments, and from light arising from the nature of

11 Locke coined the labels ad verecundiam ("to modesty" or "respect"), ad ignorantiam ("to ignorance"), and ad judicium ("to judgment"); ad hominem ("to the man") was already in use.

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from the nature of things themselves, and not from my shamefacedness, ignorance, or error.

4.17.23 *Above, contrary, and according to reason.*—By what has been before said of reason, we may be able to make some guess at the distinction of things into those that are according to, above, and contrary to reason. 1. According to reason are such propositions, whose truth we can discover by examining and tracing those ideas we have from sensation and reflection, and by natural deduction find to be true or probable. 2. Above reason are such propositions, whose truth or probability we cannot by reason derive from those principles. 3. Contrary to reason are such propositions as are inconsistent with, or irreconcileable to, our clear and distinct ideas.

Thus the existence of one God is according to reason; the existence of more than one God contrary to reason; the resurrection of the dead above reason. Farther, above reason may be taken in a double sense, viz. either as signifying above probability, or above certainty; so in that large sense also, contrary to reason is, I suppose, sometimes taken.

4.17.24 *Reason and faith not opposite.*—There is another use of the word reason, wherein it is opposed to faith; which, though it be in itself a very improper way of speaking, yet common use has so authorized it, that it would be folly either to oppose or hope to remedy it: only I think it may not be amiss to take notice, that however faith be opposed to reason, faith is nothing but a firm assent of the mind: which, if it be regulated, as is our duty, cannot be afforded to any thing but upon good reason; and so cannot be opposite to it.

He that believes, without having any reason for believing, may be in love with his own fancies; but neither seeks truth as he ought, nor pays the obedience due to his Maker, who would have him use those discerning faculties he has given him, to keep him out of mistake and error. He that does not this to the best of his power, however he sometimes lights on truth, is in the right but by chance; and I know not whether the luckiness of the accident will excuse the irregularity of his proceeding.

This at least is certain, that he must be accountable for whatever mistakes he runs into:

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things themselves—not from my bashfulness, ignorance, or error.

Above, contrary, and according to reason.—From what has been said about reason, we may be able to make some guess at the distinction of things into those that are according to reason, above reason, and contrary to reason. 1. According to reason are those propositions whose truth we can discover by examining and tracing the ideas we have from sensation and reflection, and which we find by natural deduction to be true or probable. 2. Above reason are those propositions whose truth or probability we cannot derive by reason from those principles. 3. Contrary to reason are those propositions that are inconsistent with, or irreconcilable with, our clear and distinct ideas.

Thus the existence of one God is according to reason; the existence of more than one God, contrary to reason; the resurrection of the dead, above reason. Further, "above reason" may be taken in two senses: either as meaning above probability, or as meaning above certainty. And I suppose "contrary to reason" is sometimes taken in that broad sense too.

Reason and faith not opposite.—There is another use of the word "reason," in which it is opposed to faith. In itself this is a very improper way of speaking, but common usage has so authorized it that it would be foolish either to oppose it or to hope to remedy it. I only think it worth noting that, however faith is opposed to reason, faith is nothing but a firm assent of the mind. And if that assent is regulated, as it is our duty to regulate it, it cannot be given to anything except on good reason, and so cannot be opposed to reason.

He who believes without having any reason for believing may be in love with his own fancies; but he neither seeks truth as he ought, nor pays the obedience due to his Maker, who wants him to use the discerning faculties he has given him to keep him out of mistake and error. He who does not do this to the best of his power, even if he sometimes hits on the truth, is right only by chance; and I do not know whether the luck of the accident will excuse the irregularity of his procedure.

This at least is certain: he must answer for whatever mistakes he falls into. Whereas he who

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whereas he that makes use of the light and faculties God has given him, and seeks sincerely to discover truth by those helps and abilities he has, may have this satisfaction in doing his duty as a rational creature, that, though he should miss truth, he will not miss the reward of it. For he governs his assent right, and places it as he should, who, in any case or matter whatsoever, believes or disbelieves, according as reason directs him.

He that doth otherwise, transgresses against his own light, and misuses those faculties which were given him to no other end but to search and follow the clearer evidence and greater probability. But since reason and faith are by some men opposed, we will so consider them in the following chapter.

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makes use of the light and faculties God has given him, and sincerely seeks to discover truth with the aids and abilities he has, may have this satisfaction in doing his duty as a rational creature: that even if he misses the truth, he will not miss the reward of it. For he governs his assent rightly, and places it as he should, who in any case or matter whatever believes or disbelieves as reason directs him.

He who does otherwise transgresses against his own light, and misuses faculties that were given him for no other purpose than to search out and follow the clearer evidence and the greater probability. But since some people set reason and faith against each other, we will consider them in that way in the following chapter.

FAITH AND REASON

Faith is assent to revelation, but no supposed revelation can overrule clear knowledge.

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4.18.1 *Necessary to know their boundaries.*—It has been above shown, 1. That we are of necessity ignorant, and want knowledge of all sorts, where we want ideas. 2. That we are ignorant, and want rational knowledge, where we want proofs. 3. That we want general knowledge and certainty, as far as we want clear and determined specific ideas. 4. That we want probability to direct our assent in matters where we have neither knowledge of our own, nor testimony of other men, to bottom our reason upon.

From these things thus premised, I think we may come to lay down the measures and boundaries between faith and reason; the want whereof may possibly have been the cause, if not of great disorders, yet at least of great disputes, and perhaps mistakes in the world. For till it be resolved how far we are to be guided by reason, and how far by faith, we shall in vain dispute and endeavour to convince one another in matters of religion.

4.18.2 *Faith and reason what, as contradistinguished.*—I find every sect, as far as reason will help them, make use of it gladly: and where it fails them they cry out, it is matter of faith, and above reason. And I do not see how they can argue with any one,

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Necessary to know their boundaries.—It has been shown above: 1. That we are necessarily ignorant, and lack knowledge of every sort, where we lack ideas. 2. That we are ignorant, and lack rational knowledge, where we lack proofs. 3. That we lack general knowledge and certainty to the extent that we lack clear and determinate specific ideas. 4. That we lack probability to direct our assent in matters where we have neither knowledge of our own nor the testimony of other people on which to ground our reason.

With these things established, I think we may proceed to lay down the measures and boundaries between faith and reason. The lack of these may have been the cause, if not of great disorders, then at least of great disputes, and perhaps of mistakes, in the world. For until it is settled how far we are to be guided by reason and how far by faith, we will argue and try to convince one another in matters of religion in vain.

What faith and reason are, as distinguished from each other.—I find that every sect gladly makes use of reason as far as it will help them; and where it fails them, they cry out, "It is a matter of faith, and above reason." And I do not see how they can ar-

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or ever convince a gainsayer who makes use of the same plea, without setting down strict boundaries between faith and reason; which ought to be the first point established in all questions, where faith has any thing to do.

Reason therefore here, as contradistinguished to faith, I take to be the discovery of the certainty or probability of such proposition or truths, which the mind arrives at by deduction from such ideas which it has got by the use of its natural faculties, viz. by sensation or reflection.

Faith, on the other side, is the assent to any proposition, not thus made out by the deductions of reason; but upon the credit of the proposer, as coming from God, in some extraordinary way of communication. This way of discovering truths to men we call revelation.

4.18.3 *No new simple idea can be conveyed by traditional revelation.*—First then I say, that no man inspired by God can by any revelation communicate to others any new simple ideas, which they had not before from sensation or reflection. For whatsoever impressions he himself may have from the immediate hand of God, this revelation, if it be of new simple ideas, cannot be conveyed to another either by words or any other signs. Because words, by their immediate operation on us, cause no other ideas but of their natural sounds: and it is by the custom of using them for signs, that they excite and revive in our minds latent ideas; but yet only such ideas as were there before.

For words seen or heard recall to our thoughts those ideas only which to us they have been wont to be signs of; but cannot introduce any perfectly new, and formerly unknown simple ideas. The same holds in all other signs, which cannot signify to us things of which we have before never had any idea at all.

Thus whatever things were discovered to St Paul, when he was rapt up into the third heaven, whatever new ideas his mind there received, all the description he can make to others of that place is only this, that there are such things, "as eye hath not seen, nor ear heard, neither hath it entered into the heart of man to conceive." And

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gue with anyone, or ever convince an opponent who uses the same plea, without setting down strict boundaries between faith and reason. That ought to be the first point settled in every question where faith has any part.

Reason, then, as distinguished here from faith, I take to be the discovery of the certainty or probability of those propositions or truths that the mind arrives at by deduction from ideas it has acquired by the use of its natural faculties, namely by sensation or reflection.

Faith, on the other hand, is assent to a proposition that has not been made out in this way by the deductions of reason, but is accepted on the credit of the one who proposes it, as coming from God in some extraordinary way of communication. This way of discovering truths to people we call revelation.

No new simple idea can be conveyed by traditional revelation.—First, then, I say that no man inspired by God can, by any revelation, communicate to others any new simple ideas that they did not have before from sensation or reflection. For whatever impressions he himself may receive directly from the hand of God, this revelation, if it consists of new simple ideas, cannot be passed on to another either by words or by any other signs. Words, by their direct operation on us, cause no ideas except those of their natural sounds. It is by the custom of using them as signs that they arouse and revive latent ideas in our minds—but only ideas that were there before.

For words seen or heard call to mind only those ideas of which they have been accustomed to be signs to us; they cannot introduce any entirely new and previously unknown simple ideas. The same holds for all other signs: they cannot signify to us things of which we have never had any idea at all.

Thus, whatever things were revealed to St. Paul when he was caught up into the third heaven, whatever new ideas his mind received there, the only description he can give others of that place is this: that there are such things “as eye has not seen, nor ear heard, neither has it entered into the heart of man to conceive.” And suppose God were

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supposing God should discover to any one supernaturally, a species of creatures inhabiting, for example, Jupiter or Saturn, (for that it is possible there may be such nobody can deny) which had six senses;

and imprint on his mind the ideas conveyed to theirs by that sixth sense; he could no more by words, produce in the minds of other men those ideas, imprinted by that sixth sense, than one of us could convey the idea of any colour by the sounds of words into a man, who, having the other four senses perfect, had always totally wanted the fifth of seeing.

For our simple ideas then, which are the foundation and sole matter of all our notions and knowledge, we must depend wholly on our reason, I mean our natural faculties; and can by no means receive them, or any of them, from traditional revelation; I say traditional revelation, in distinction to original revelation. By the one, I mean that first impression, which is made immediately by God, on the mind of any man, to which we cannot set any bounds; and by the other, those impressions delivered over to others in words, and the ordinary ways of conveying our conceptions one to another.

4.18.4 *Traditional revelation may make us know propositions knowable also by reason, but not with the same certainty that reason doth.*—Secondly, I say that the same truths may be discovered, and conveyed down from revelation, which are discoverable to us by reason, and by those ideas we naturally may have. So God might, by revelation, discover the truth of any proposition in Euclid; as well as men, by the natural use of their faculties, come to make the discovery themselves. In all things of this kind, there is little need or use of revelation, God having furnished us with natural and surer means to arrive at the knowledge of them.

For whatsoever truth we come to the clear discovery of, from the knowledge and contemplation of our own ideas, will always be more certain to us than those which are conveyed to us by traditional revelation. For the knowledge we have, that this revelation came at first from God, can never be so sure, as the knowledge we

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to reveal supernaturally to someone a species of creatures living on, say, Jupiter or Saturn (for no one can deny that there may possibly be such creatures) that had six senses,[12]

and were to imprint on his mind the ideas conveyed to theirs by that sixth sense. He could no more produce in other people's minds, by words, the ideas imprinted by that sixth sense than one of us could convey the idea of any color, by the sounds of words, to a man who had the other four senses perfect but had always been entirely without the fifth, sight.

For our simple ideas, then—which are the foundation and sole material of all our notions and knowledge—we must depend wholly on our reason, I mean our natural faculties. We can in no way receive them, or any of them, from traditional revelation. I say traditional revelation, as distinguished from original revelation. By original revelation I mean the first impression made directly by God on the mind of any man, to which we cannot set any limits; by traditional revelation, those impressions passed on to others in words and in the ordinary ways by which we convey our conceptions to one another.

Traditional revelation may make us know propositions knowable also by reason, but not with the same certainty that reason does.—Secondly, I say that the same truths that are discoverable to us by reason, and by the ideas we can naturally have, may also be discovered and handed down by revelation. So God might reveal the truth of any proposition in Euclid, just as people, by the natural use of their faculties, come to discover it themselves. In all things of this kind there is little need or use for revelation, since God has supplied us with natural and surer means of arriving at the knowledge of them.

For whatever truth we come to discover clearly from the knowledge and contemplation of our own ideas will always be more certain to us than truths conveyed to us by traditional revelation. The knowledge we have that this revelation came from God in the first place can never be as sure as the knowledge we have from the clear and distinct

12 Paul's rapture into the third heaven is in 2 Corinthians 12:2–4; the words quoted are from 1 Corinthians 2:9.

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have from the clear and distinct perception of the agreement or disagreement of our own ideas; v.

g. *if it were revealed some ages since, that the three angles of a triangle were equal to two right ones, I might assent to the truth of that proposition, upon the credit of the tradition, that it was revealed; but that it would never amount to so great a certainty as the knowledge of it, upon the comparing and measuring my own ideas of two right angles, and the three angles of a triangle. The like holds in matter of fact, knowable by our senses;* v.

g. the history of the deluge is conveyed to us by writings which had their original from revelation: and yet nobody, I think, will say he has as certain and clear knowledge of the flood as Noah that saw it; or that he himself would have had, had he then been alive and seen it. For he has no greater assurance than that of his senses that it is writ in the book supposed writ by Moses inspired: but he has not so great an assurance that Moses writ that book, as if he had seen Moses write it. So that the assurance of its being a revelation is less still than the assurance of his senses.

4.18.5 *Revelation cannot be admitted against the clear evidence of reason.*—In propositions then, whose certainty is built upon the clear perception of the agreement or disagreement of our ideas, attained either by immediate intuition, as in self-evident propositions, or by evident deductions of reason in demonstrations, we need not the assistance of revelation, as necessary to gain our assent, and introduce them into our minds. Because the natural ways of knowledge could settle them there, or had done it already; which is the greatest assurance we can possibly have of any thing, unless where God immediately reveals it to us; and there too our assurance can be no greater than our knowledge is, that it is a revelation from God.

But yet nothing, I think, can, under that title, shake or overrule plain knowledge; or rationally prevail with any man to admit it for true, in a direct contradiction to the clear evidence of his own understanding. For since no evidence of our faculties, by which we receive such revelations, can exceed, if equal, the certainty of our intuitive knowledge, we can never receive for a truth any

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perception of the agreement or disagreement of our own ideas.

For example, if it had been revealed some ages ago that the three angles of a triangle are equal to two right angles, I might assent to the truth of that proposition on the credit of the tradition that it was revealed; but that would never amount to as great a certainty as knowing it by comparing and measuring my own ideas of two right angles and of the three angles of a triangle. The same holds in matters of fact knowable by our senses.

For example, the history of the Flood is conveyed to us by writings that originated in revelation; and yet nobody, I think, will say he has as certain and clear a knowledge of the Flood as Noah, who saw it, or as he himself would have had if he had been alive then and seen it. For he has no greater assurance than that of his senses that it is written in the book supposed to have been written by Moses under inspiration; but he does not have as great an assurance that Moses wrote that book as he would if he had seen Moses write it. So the assurance that it is a revelation is less still than the assurance of his senses.

Revelation cannot be admitted against the clear evidence of reason.—In propositions, then, whose certainty is built on the clear perception of the agreement or disagreement of our ideas—attained either by direct intuition, as in self-evident propositions, or by evident deductions of reason, as in demonstrations—we do not need the help of revelation as something necessary to gain our assent and bring them into our minds. For the natural ways of knowledge could settle them there, or had already done so; and that is the greatest assurance we can possibly have of anything, except where God reveals it to us directly—and even then our assurance can be no greater than our knowledge that it is a revelation from God.

But nothing, I think, can under that title shake or overrule plain knowledge, or rationally persuade anyone to accept as true something in direct contradiction to the clear evidence of his own understanding. For since no evidence of our faculties, by which we receive such revelations, can exceed —if it can even equal—the certainty of our intuitive knowledge, we can never accept as a truth any-

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thing that is directly contrary to our clear and distinct knowledge: v.

g. the ideas of one body and one place do so clearly agree, and the mind has so evident a perception of their agreement, that we can never assent to a proposition, that affirms the same body to be in two distant places at once, however it should pretend to the authority of a divine revelation: since the evidence, first, that we deceive not ourselves, in ascribing it to God; secondly, that we understand it right; can never be so great as the evidence of our own intuitive knowledge, whereby we discern it impossible for the same body to be in two places at once.

And therefore no proposition can be received for divine revelation, or obtain the assent due to all such, if it be contradictory to our clear intuitive knowledge. Because this would be to subvert the principles and foundations of all knowledge, evidence, and assent whatsoever; and there would be left no difference between truth and falsehood, no measures of credible and incredible in the world, if doubtful propositions shall take place before self-evident, and what we certainly know give way to what we may possibly be mistaken in. In propositions, therefore, contrary to the clear perception of the agreement or disagreement of any of our ideas, it will be in vain to urge them as matters of faith.

They cannot move our assent under that or any other title whatsoever. For faith can never convince us of any thing that contradicts our knowledge. Because though faith be founded on the testimony of God (who cannot lie) revealing any proposition to us; yet we cannot have an assurance of the truth of its being a divine revelation greater than our own knowledge; since the whole strength of the certainty depends upon our own knowledge that God revealed it; which in this case, where the proposition supposed revealed contradicts our knowledge or reason, will always have this objection hanging to it, viz.

that we cannot tell how to conceive that to come from God, the bountiful Author of our being, which, if received for true, must overturn all the principles and foundations of knowledge he has given us; render all our faculties useless; wholly destroy the most excellent part of his workmanship, our understandings; and put a

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thing directly contrary to our clear and distinct knowledge.

For example, the ideas of one body and one place agree so clearly, and the mind perceives their agreement so evidently, that we can never assent to a proposition affirming that the same body is in two distant places at once, however much it may claim the authority of a divine revelation. For the evidence, first, that we are not deceiving ourselves in ascribing it to God, and secondly, that we understand it rightly, can never be as great as the evidence of our own intuitive knowledge, by which we see that it is impossible for the same body to be in two places at once.

And therefore no proposition can be accepted as divine revelation, or receive the assent due to all such revelation, if it contradicts our clear intuitive knowledge. For this would overturn the principles and foundations of all knowledge, evidence, and assent whatsoever. There would be no difference left between truth and falsehood, no standards of credible and incredible in the world, if doubtful propositions were to take precedence over self-evident ones, and what we know for certain were to give way to what we may possibly be mistaken about. So it will be useless to press, as matters of faith, propositions contrary to the clear perception of the agreement or disagreement of any of our ideas.

They cannot win our assent under that title or any other. For faith can never convince us of anything that contradicts our knowledge. Although faith is founded on the testimony of God (who cannot lie) revealing some proposition to us, we cannot have an assurance that it truly is a divine revelation greater than our own knowledge, since the whole strength of the certainty depends on our own knowledge that God revealed it. And in this case, where the proposition supposed to be revealed contradicts our knowledge or reason, that knowledge will always have this objection hanging over it, namely:

that we cannot see how to conceive that something comes from God, the bountiful Author of our being, which, if accepted as true, must overturn all the principles and foundations of knowledge he has given us, make all our faculties useless, wholly destroy the most excellent part of his workmanship, our understandings, and put a man in a con-

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man in a condition, wherein he will have less light, less conduct, than the beast that perisheth.

For if the mind of man can never have a clearer (and perhaps not so clear) evidence of any thing to be a divine revelation, as it has of the principles of its own reason, it can never have a ground to quit the clear evidence of its reason, to give a place to a proposition, whose revelation has not a greater evidence than those principles have.

4.18.6 *Traditional revelation much less.*—Thus far a man has use of reason, and ought to hearken to it, even in immediate and original revelation, where it is supposed to be made to himself: but to all those who pretend not to immediate revelation, but are required to pay obedience, and to receive the truths revealed to others, which by the tradition of writings, or word of mouth, are conveyed down to them; reason has a great deal more to do, and is that only which can induce us to receive them.

For matter of faith being only divine revelation, and nothing else; faith, as we use the word (called commonly divine faith), has to do with no propositions but those which are supposed to be divinely revealed. So that I do not see how those, who make revelation alone the sole object of faith, can say, that it is a matter of faith, and not of reason, to believe that such or such a proposition to be found in such or such a book is of divine inspiration; unless it be revealed, that that proposition, or all in that book, was communicated by divine inspiration.

Without such a revelation, the believing or not believing that proposition or book to be of divine authority can never be matter of faith, but matter of reason; and such as I must come to an assent to only by the use of my reason, which can never require or enable me to believe that which is contrary to itself: it being impossible for reason ever to procure any assent to that, which to itself appears unreasonable.

In all things, therefore, where we have clear evidence from our ideas, and those principles of knowledge I have above mentioned, reason is the proper judge; and revelation, though it may in consenting with it confirm its dictates, yet cannot in such cases invalidate its decrees: nor can we be

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dition in which he will have less light and less guidance than the beast that perishes.[13]

For if the human mind can never have clearer (and perhaps not even as clear) evidence that anything is a divine revelation than it has of the principles of its own reason, it can never have grounds to abandon the clear evidence of its reason in order to make room for a proposition whose revelation has no greater evidence than those principles have.

Traditional revelation much less.—This far a man has use for reason, and ought to listen to it, even in direct and original revelation, where it is supposed to be made to himself. But for all those who do not claim direct revelation, but are required to obey and to accept truths revealed to others, handed down to them by the tradition of writings or by word of mouth, reason has a great deal more to do, and it alone can lead us to accept them.

For since the matter of faith is only divine revelation and nothing else, faith as we use the word (commonly called divine faith) has to do with no propositions except those supposed to be divinely revealed. So I do not see how those who make revelation alone the sole object of faith can say that it is a matter of faith, and not of reason, to believe that this or that proposition found in this or that book is divinely inspired—unless it has been revealed that that proposition, or everything in that book, was communicated by divine inspiration.

Without such a revelation, believing or not believing that the proposition or book has divine authority can never be a matter of faith, but only a matter of reason, and one I can come to assent to only by the use of my reason. And reason can never require or enable me to believe what is contrary to itself, since it is impossible for reason ever to produce assent to what appears unreasonable to it.

In all things, therefore, where we have clear evidence from our ideas and from the principles of knowledge I mentioned above, reason is the proper judge. Revelation, by agreeing with reason, may confirm its dictates, but cannot in such cases invalidate its decrees. Nor can we be obliged, where

13 "The beast that perishes" echoes Psalm 49:12, 20.

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obliged, where we have the clear and evident sentence of reason, to quit it for the contrary opinion, under a pretence that it is matter of faith; which can have no authority against the plain and clear dictates of reason.

4.18.7 *Things above reason.*—But thirdly, there being many things, wherein we have very imperfect notions, or none at all; and other things, of whose past, present, or future existence, by the natural use of our faculties, we can have no knowledge at all; these, as being beyond the discovery of our natural faculties, and above reason, are, when revealed, the proper matter of faith. Thus, that part of the angels rebelled against God, and thereby lost their first happy state; and that the dead shall rise, and live again: these, and the like, being beyond the discovery of reason, are purely matters of faith, with which reason has directly nothing to do.

4.18.8 *Or not contrary to reason, if revealed, are matter of faith.*—But since God in giving us the light of reason has not thereby tied up his own hands from affording us, when he thinks fit, the light of revelation in any of those matters wherein our natural faculties are able to give a probable determination; revelation, where God has been pleased to give it, must carry it against the probable conjectures of reason. Because the mind not being certain of the truth of that it does not evidently know, but only yielding to the probability that appears in it, is bound to give up its assent to such testimony; which, it is satisfied, comes from one who cannot err, and will not deceive.

But yet it still belongs to reason to judge of the truth of its being a revelation, and of the signification of the words wherein it is delivered. Indeed, if any thing shall be thought revelation, which is contrary to the plain principles of reason, and the evident knowledge the mind has of its own clear and distinct ideas; there reason must be hearkened to, as to a matter within its province: since a man can never have so certain a knowledge, that a proposition, which contradicts the clear principles and evidence of his own knowledge, was divinely revealed, or that he understands the words rightly wherein it is delivered; as he has, that the contrary is true: and so is bound to consider and judge of it as a matter

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we have the clear and evident sentence of reason, to abandon it for the contrary opinion on the pretext that it is a matter of faith; faith can have no authority against the plain and clear dictates of reason.

Things above reason.—But thirdly, there are many things of which we have very imperfect notions, or none at all, and other things of whose past, present, or future existence we can have no knowledge at all by the natural use of our faculties. These, being beyond the discovery of our natural faculties and above reason, are the proper matter of faith when they are revealed. Thus, that some of the angels rebelled against God and so lost their first happy state, and that the dead will rise and live again—these and the like, being beyond the discovery of reason, are purely matters of faith, with which reason has directly nothing to do.

Or not contrary to reason, if revealed, are matter of faith.—But in giving us the light of reason, God has not tied his own hands from granting us, when he sees fit, the light of revelation in any of those matters on which our natural faculties can give a probable determination. So revelation, where God has been pleased to give it, must prevail over the probable conjectures of reason. For the mind is not certain of the truth of what it does not evidently know, but only yields to the probability it sees in it; and so it is bound to give its assent to such testimony as it is satisfied comes from one who cannot err and will not deceive.

Even so, it still belongs to reason to judge whether it truly is a revelation, and what the words in which it is delivered mean. Indeed, if anything is taken for revelation that is contrary to the plain principles of reason and to the evident knowledge the mind has of its own clear and distinct ideas, then reason must be listened to, as in a matter within its province. For a man can never know as certainly that a proposition contradicting the clear principles and evidence of his own knowledge was divinely revealed, or that he rightly understands the words in which it is delivered, as he knows that the contrary is true. And so he is bound to consider and judge it as a matter of reas-

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of reason, and not swallow it, without examination, as a matter of faith.

4.18.9 *Revelation, in matters where reason cannot judge, or but probably, ought to be hearkened to.*—First, Whatever proposition is revealed, of whose truth our mind, by its natural faculties and notions, cannot judge; that is purely matter of faith, and above reason.

Secondly, All propositions, whereof the mind, by the use of its natural faculties, can come to determine and judge from naturally acquired ideas, are matter of reason; with this difference still, that in those concerning which it has but an uncertain evidence, and so is persuaded of their truth only upon probable grounds, which still admit a possibility of the contrary to be true, without doing violence to the certain evidence of its own knowledge, and overturning the principles of its own reason; in such probable propositions, I say, an evident revelation ought to determine our assent even against probability.

For where the principles of reason have not evidenced a proposition to be certainly true or false, there clear revelation, as another principle of truth, and ground of assent, may determine; and so it may be matter of faith, and be also above reason. Because reason, in that particular matter, being able to reach no higher than probability, faith gave the determination, where reason came short; and revelation discovered on which side the truth lay.

4.18.10 *In matters where reason can afford certain knowledge, that is to be hearkened to.*—Thus far the dominion of faith reaches, and that without any violence or hinderance to reason; which is not injured or disturbed, but assisted and improved, by new discoveries of truth coming from the eternal fountain of all knowledge. Whatever God hath revealed, is certainly true; no doubt can be made of it. This is the proper object of faith: but whether it be a divine revelation or no, reason must judge; which can never permit the mind to reject a greater evidence, to embrace what is less evident, nor allow it to entertain probability in opposition to knowledge and certainty.

There can be no evidence that any traditional revelation is of divine original, in the words we receive it, and in the sense we understand it, so

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on, and not to swallow it unexamined as a matter of faith.

Revelation, in matters where reason cannot judge, or can judge only with probability, ought to be listened to.—First, any revealed proposition whose truth our mind cannot judge by its natural faculties and notions is purely a matter of faith, and above reason.

Secondly, all propositions that the mind, by the use of its natural faculties, can come to determine and judge from naturally acquired ideas are matters of reason. But there is still this difference. Some of them are propositions about which the mind has only uncertain evidence, so that it is persuaded of their truth only on probable grounds, which still allow that the contrary could be true without doing violence to the certain evidence of its own knowledge or overturning the principles of its own reason. In such probable propositions, I say, an evident revelation ought to determine our assent even against probability.

For where the principles of reason have not shown a proposition to be certainly true or false, clear revelation, as another principle of truth and ground of assent, may decide it; and so it may be a matter of faith and also above reason. For since reason in that particular matter could reach no higher than probability, faith gave the decision where reason fell short, and revelation showed on which side the truth lay.

In matters where reason can afford certain knowledge, reason is to be listened to.—This far the dominion of faith reaches, and that without any violence to or hindrance of reason, which is not harmed or disturbed, but assisted and improved, by new discoveries of truth coming from the eternal fountain of all knowledge. Whatever God has revealed is certainly true; there can be no doubt of it. This is the proper object of faith. But whether something is a divine revelation or not, reason must judge; and reason can never permit the mind to reject greater evidence in order to embrace what is less evident, nor allow it to hold on to probability in opposition to knowledge and certainty.

There can be no evidence that any traditional revelation is of divine origin—in the words in which we receive it and in the sense in which we under-

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clear and so certain as that of the principles of reason: and therefore nothing that is contrary to, and inconsistent with, the clear and self-evident dictates of reason, has a right to be urged or assented to as a matter of faith, wherein reason hath nothing to do. Whatsoever is divine revelation ought to overrule all our opinions, prejudices, and interest, and hath a right to be received with full assent.

Such a submission as this, of our reason to faith, takes not away the landmarks of knowledge: this shakes not the foundations of reason, but leaves us that use of our faculties for which they were given us.

4.18.11 *If the boundaries be not set between faith and reason, no enthusiasm or extravagancy in religion can be contradicted.*—If the provinces of faith and reason are not kept distinct by these boundaries, there will, in matters of religion, be no room for reason at all; and those extravagant opinions and ceremonies that are to be found in the several religions of the world will not deserve to be blamed. For to this crying up of faith, in opposition to reason, we may, I think, in good measure, ascribe those absurdities that fill almost all the religions which possess and divide mankind.

For men having been principled with an opinion, that they must not consult reason in the things of religion, however apparently contradictory to common sense, and the very principles of all their knowledge, have let loose their fancies and natural superstition; and have been by them led into so strange opinions, and extravagant practices in religion, that a considerate man cannot but stand amazed at their follies, and judge them so far from being acceptable to the great and wise God, that he cannot avoid thinking them ridiculous, and offensive to a sober good man.

So that, in effect, religion, which should most distinguish us from beasts, and ought most peculiarly to elevate us, as rational creatures, above brutes, is that wherein men often appear most irrational and more senseless than beasts themselves. "Credo, quia impossibile est;" I believe, because it is impossible, might in a good man pass for a sally of zeal; but would prove a

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stand it—as clear and as certain as the evidence of the principles of reason. And therefore nothing that is contrary to and inconsistent with the clear and self-evident dictates of reason has a right to be urged or assented to as a matter of faith in which reason has nothing to do. Whatever is divine revelation ought to overrule all our opinions, prejudices, and interests, and has a right to be received with full assent.

A submission of our reason to faith like this does not remove the landmarks of knowledge. It does not shake the foundations of reason, but leaves us the use of our faculties for which they were given to us.

If the boundaries are not set between faith and reason, no enthusiasm or extravagance in religion can be contradicted.—If the provinces of faith and reason are not kept distinct by these boundaries, there will be no room at all for reason in matters of religion, and the extravagant opinions and ceremonies found in the various religions of the world will not deserve blame. For to this crying up of faith in opposition to reason we may, I think, largely attribute the absurdities that fill almost all the religions that hold and divide mankind.

For people who have been taught as a principle that they must not consult reason in matters of religion, however plainly those matters contradict common sense and the very principles of all their knowledge, have let their fancies and natural superstition run loose. They have been led by them into such strange opinions and extravagant practices in religion that a thoughtful man cannot help being amazed at their follies, and judging them so far from being acceptable to the great and wise God that he cannot avoid thinking them ridiculous and offensive to a sober, good man.

So, in effect, religion, which should most distinguish us from beasts and ought especially to raise us, as rational creatures, above the brutes, is the very thing in which people often appear most irrational, and more senseless than the beasts themselves. “Credo, quia impossibile est”—“I believe because it is impossible”—might pass in a good man for an outburst of zeal, but it would prove a very

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very ill rule for men to choose their opinions or religion by.	bad rule for people to choose their opinions or religion by.[14]

ENTHUSIASM

Locke criticizes claims to private inspiration that set aside reason and rest on strength of conviction.

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4.19.1 *Love of truth necessary.*—He that would seriously set upon the search of truth, ought, in the first place, to prepare his mind with a love of it. For he that loves it not will not take much pains to get it, nor be much concerned when he misses it. There is nobody in the commonwealth of learning who does not profess himself a lover of truth; and there is not a rational creature that would take it amiss to be thought otherwise of. And yet, for all this, one may truly say, that there are very few lovers of truth for truth-sake, even among those who persuade themselves that they are so.	*Love of truth necessary.*—Anyone who would seriously set about the search for truth ought, first of all, to prepare his mind with a love of it. For someone who does not love it will not take much trouble to get it, or be much concerned when he misses it. There is nobody in the commonwealth of learning who does not profess to be a lover of truth, and there is not a rational creature who would not take it badly to be thought anything else. And yet, for all this, one may truly say that there are very few lovers of truth for truth's sake, even among those who persuade themselves that they are such.
How a man may know whether he be so in earnest, is worth inquiry: and I think there is one unerring mark of it, viz. the not entertaining any proposition with greater assurance than the proofs it is built upon will warrant. Whoever goes beyond this measure of assent, it is plain, receives not truth in the love of it; loves not truth for truth-sake, but for some other by-end.	How a man may know whether he is in earnest about this is worth inquiring into. I think there is one unerring mark of it, namely, not entertaining any proposition with greater assurance than the proofs it is built on will warrant. Whoever goes beyond this measure of assent plainly does not receive truth out of love for it. He does not love truth for truth's sake, but for some other ulterior purpose.
For the evidence that any proposition is true (except such as are self-evident) lying only in the proofs a man has of it, whatsoever degrees of assent he affords it beyond the degrees of that evidence, it is plain that all the surplusage of assurance is owing to some other affection, and not to the love of truth: it being as impossible that the love of truth should carry my assent above the evidence there is to me that it is true, as that the love of truth should make me assent to any proposition for the sake of that evidence, which it has not, that it is true; which is, in effect, to love it as a truth because it is possible or probable that it may not be true.	For the evidence that any proposition is true (apart from those that are self-evident) lies only in the proofs a man has of it. So whatever degrees of assent he gives it beyond the degrees of that evidence, it is plain that all that surplus of assurance is owing to some other affection, and not to the love of truth. It is as impossible that the love of truth should carry my assent above the evidence I have that a thing is true, as that the love of truth should make me assent to a proposition for the sake of evidence it does not have, evidence that it is true. That would be, in effect, to love it as a truth because it is possible or probable that it may not be true.
In any truth that gets not possession of our minds by the irresistible light of self-evidence, or by the force of demonstration, the arguments that gain it assent are the vouchers and gage of its probability	Some truths do not take possession of our minds by the irresistible light of self-evidence or by the force of demonstration. With any such truth, the

14 The saying is a traditional paraphrase of Tertullian, *On the Flesh of Christ* 5 ("it is certain, because it is impossible").

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to us; and we can receive it for no other than such as they deliver it to our understandings. Whatsoever credit or authority we give to any proposition, more than it receives from the principles and proofs it supports itself upon, is owing to our inclinations that way, and is so far a derogation from the love of truth as such; which, as it can receive no evidence from our passions or interests, so it should receive no tincture from them.

4.19.2 *A forwardness to dictate, from whence.*—The assuming an authority of dictating to others, and a forwardness to prescribe to their opinions, is a constant concomitant of this bias and corruption of our judgments. For how almost can it be otherwise, but that he should be ready to impose on another's belief, who has already imposed on his own? Who can reasonably expect arguments and conviction from him, in dealing with others, whose understanding is not accustomed to them in his dealing with himself? Who does violence to his own faculties, tyrannizes over his own mind, and usurps the prerogative that belongs to truth alone, which is to command assent by only its own authority, i.

e. by and in proportion to that evidence which it carries with it.

4.19.3 *Force of enthusiasm.*—Upon this occasion I shall take the liberty to consider a third ground of assent, which with some men has the same authority, and is as confidently relied on as either faith or reason; I mean enthusiasm: which, laying by reason, would set up revelation without it. Whereby, in effect, it takes away both reason and revelation, and substitutes in the room of it the ungrounded fancies of a man's own brain, and assumes them for a foundation both of opinion and conduct.

4.19.4 *Reason and revelation.*—Reason is natural revelation, whereby the eternal Father of light, and fountain of all knowledge, communicates to mankind that portion of truth which he has laid within the reach of their natural faculties: revelation is natural reason enlarged by a new set of discoveries communicated by God immediately, which reason vouches the truth of, by the testimony and proofs it gives that they

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arguments that win our assent to it are the vouchers and pledge of its probability to us, and we can receive it only as what those arguments present it to our understandings as being. Whatever credit or authority we give a proposition beyond what it gets from the principles and proofs it rests on is owing to our inclinations in that direction. To that extent it detracts from the love of truth as such. Truth can receive no evidence from our passions or interests, and so it should receive no tinge from them either.

A forwardness to dictate, where it comes from.—Assuming an authority to dictate to others, and an eagerness to prescribe their opinions for them, is a constant companion of this bias and corruption of our judgments. For how could it be otherwise? Someone who has already imposed on his own belief will be ready to impose on another's. Who can reasonably expect arguments and conviction in his dealings with others from a man whose understanding is not used to them in his dealings with himself? Such a man does violence to his own faculties, tyrannizes over his own mind, and usurps the prerogative that belongs to truth alone. That prerogative is to command assent by its own authority only, that is,

by, and in proportion to, the evidence it carries with it.

Force of enthusiasm.—On this occasion I will take the liberty of considering a third ground of assent. With some men it has the same authority as faith or reason, and is relied on just as confidently. I mean enthusiasm, which sets reason aside and would set up revelation without it. In doing so it in effect takes away both reason and revelation. It puts in their place the ungrounded fancies of a man's own brain, and adopts them as a foundation for both opinion and conduct.

Reason and revelation.—Reason is natural revelation. By it the eternal Father of light and fountain of all knowledge communicates to mankind that portion of truth he has placed within reach of their natural faculties. Revelation is natural reason enlarged by a new set of discoveries communicated directly by God, and reason vouches for their truth by the testimony and proofs it gives that they come from God. So anyone who takes

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come from God. So that he that takes away reason, to make way for revelation, puts out the light of both, and does muchwhat the same as if he would persuade a man to put out his eyes, the better to receive the remote light of an invisible star by a telescope.

4.19.5 *Rise of enthusiasm.*—Immediate revelation being a much easier way for men to establish their opinions, and regulate their conduct, than the tedious and not always successful labour of strict reasoning, it is no wonder that some have been very apt to pretend to revelation, and to persuade themselves that they are under the peculiar guidance of heaven in their actions and opinions, especially in those of them which they cannot account for by the ordinary methods of knowledge, and principles of reason.

Hence we see that in all ages men, in whom melancholy has mixed with devotion, or whose conceit of themselves has raised them into an opinion of a greater familiarity with God, and a nearer admittance to his favour than is afforded to others, have often flattered themselves with the persuasion of an immediate intercourse with the Deity, and frequent communications from the Divine Spirit. God, I own, cannot be denied to be able to enlighten the understanding by a ray darted into the mind immediately from the fountain of light; this they understand he has promised to do, and who then has so good a title to expect it as those who are his peculiar people, chosen by him, and depending on him?

4.19.6 *Enthusiasm.*—Their minds being thus prepared, whatever groundless opinion comes to settle itself strongly upon their fancies, is an illumination from the spirit of God, and presently of divine authority: and whatsoever odd action they find in themselves a strong inclination to do, that impulse is concluded to be a call or direction from heaven, and must be obeyed; it is a commission from above, and they cannot err in executing it.

4.19.7 This I take to be properly enthusiasm, which, though founded neither on reason nor divine revelation, but rising from the conceits of a warmed or overweening brain, works yet, where it once gets footing, more powerfully on the

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away reason to make way for revelation puts out the light of both. He does much the same as a man who would persuade another to put out his eyes, the better to receive the remote light of an invisible star through a telescope.

Rise of enthusiasm.—Immediate revelation is a much easier way for men to establish their opinions and regulate their conduct than the tedious, and not always successful, labor of strict reasoning. It is no wonder, then, that some have been very apt to lay claim to revelation. They persuade themselves that they are under the special guidance of heaven in their actions and opinions, especially in those they cannot account for by the ordinary methods of knowledge and the principles of reason.

Hence we see this in every age. Some men have melancholy mixed with their devotion. Others have so high an opinion of themselves that they believe they have a greater familiarity with God, and a closer admission to his favor, than others are granted. Such men have often flattered themselves with the conviction that they have immediate communication with the Deity and frequent messages from the Divine Spirit. I grant that it cannot be denied that God is able to enlighten the understanding by a ray darted into the mind directly from the fountain of light. This, as they understand it, he has promised to do. And who, then, has so good a claim to expect it as those who are his own special people, chosen by him and depending on him?

Enthusiasm.—Once their minds are prepared in this way, whatever groundless opinion settles itself strongly on their imagination is taken for an illumination from the Spirit of God, and at once for something of divine authority. And whatever odd action they find in themselves a strong inclination to do, they conclude that the impulse is a call or direction from heaven and must be obeyed. It is a commission from above, and they cannot go wrong in carrying it out.

This I take to be enthusiasm, properly so called. It is founded neither on reason nor on divine revelation, but arises from the notions of an overheated or self-conceited brain. Yet wherever it once gets a foothold, it works more powerfully on men's con-

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persuasions and actions of men, than either of those two, or both together: men being most forwardly obedient to the impulses they receive from themselves; and the whole man is sure to act more vigorously, where the whole man is carried by a natural motion.

For strong conceit, like a new principle, carries all easily with it, when got above common sense, and freed from all restraint of reason, and check of reflection, it is heightened into a divine authority, in concurrence with our own temper and inclination.

4.19.8 *Enthusiasm mistaken for seeing and feeling.*—Though the odd opinions and extravagant actions enthusiasm has run men into were enough to warn them against this wrong principle, so apt to misguide them both in their belief and conduct; yet the love of something extraordinary, the ease and glory it is to be inspired, and be above the common and natural ways of knowledge, so flatters many men's laziness, ignorance, and vanity, that when once they are got in this way of immediate revelation, of illumination without search, and of certainty without proof, and without examination, it is a hard matter to get them out of it.

Reason is lost upon them; they are above it: they see the light infused into their understandings, and cannot be mistaken; it is clear and visible there, like the light of bright sunshine; shows itself, and needs no other proof but its own evidence: they feel the hand of God moving them within, and the impulses of the Spirit, and cannot be mistaken in what they feel. Thus they support themselves, and are sure reason hath nothing to do with what they see and feel in themselves: what they have a sensible experience of admits no doubt, needs no probation. Would he not be ridiculous, who should require to have it proved to him that the light shines, and that he sees it?

It is its own proof, and can have no other. When the Spirit brings light into our minds, it dispels darkness. We see it, as we do that of the sun at noon, and need not the twilight of reason to show it us. This light from heaven is strong, clear, and pure, carries its own demonstration with it; and we may as rationally take a glow-worm to assist

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victions and actions than either of those two, or both together. For men are most readily obedient to the impulses they receive from themselves, and the whole man is sure to act more vigorously when the whole man is carried along by a natural motion.

For a strong notion, like a new principle, easily carries everything along with it. Once it has risen above common sense and been freed from every restraint of reason and check of reflection, it is heightened into a divine authority, with our own temperament and inclination working along with it.

Enthusiasm mistaken for seeing and feeling.—The odd opinions and extravagant actions into which enthusiasm has led men ought to be enough to warn them against this wrong principle, which is so apt to mislead them in both belief and conduct. Yet the love of something extraordinary flatters many men's laziness, ignorance, and vanity, and so do the ease and glory of being inspired and raised above the common and natural ways of knowledge. Once they have got into this way of immediate revelation, of illumination without searching, of certainty without proof and without examination, it is a hard matter to get them out of it.

Reason is lost on them; they are above it. They see the light poured into their understandings, and cannot be mistaken. It is clear and visible there, like the light of bright sunshine; it shows itself, and needs no proof but its own evidence. They feel the hand of God moving them within, and the impulses of the Spirit, and cannot be mistaken about what they feel. So they reassure themselves, and are sure that reason has nothing to do with what they see and feel in themselves. What they experience as plainly as the senses admits no doubt and needs no proof. Would not a man be ridiculous if he demanded to have it proved to him that the light shines and that he sees it?

It is its own proof, and can have no other. When the Spirit brings light into our minds, it dispels darkness. We see this light as we see the light of the sun at noon, and need no twilight of reason to show it to us. This light from heaven is strong, clear, and pure, and carries its own demonstration with it. We might as rationally use a glowworm to

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us to discover the sun, as to examine the celestial ray by our dim candle, reason.

4.19.9 *Enthusiasm how to be discovered.*—This is the way of talking of these men: they are sure because they are sure: and their persuasions are right, because they are strong in them. For, when what they say is stripped of the metaphor of seeing and feeling, this is all it amounts to: and yet these similes so impose on them, that they serve them for certainty in themselves, and demonstration to others.

4.19.10 But to examine a little soberly this internal light, and this feeling on which they build so much. These men have, they say, clear light, and they see; they have awakened sense, and they feel; this cannot, they are sure, be disputed them. For when a man says he sees or feels, nobody can deny it him that he does so. But here let me ask: this seeing, is it the perception of the truth of the proposition, or of this, that it is a revelation from God? This feeling, is it a perception of an inclination or fancy to do something, or of the Spirit of God moving that inclination?

These are two very different perceptions, and must be carefully distinguished, if we would not impose upon ourselves. I may perceive the truth of a proposition, and yet not perceive that it is an immediate revelation from God. I may perceive the truth of a proposition in Euclid, without its being, or my perceiving it to be a revelation: nay, I may perceive I came not by this knowledge in a natural way, and so may conclude it revealed, without perceiving that it is a revelation from God; because there be spirits, which, without being divinely commissioned, may excite those ideas in me, and lay them in such order before my mind, that I may perceive their connexion.

So that the knowledge of any proposition coming into my mind, I know not how, is not a perception that it is from God. Much less is a strong persuasion that it is true, a perception that it is from God, or so much as true. But however it be called light and seeing, I suppose it is at most but belief and assurance; and the proposition taken for a revelation is not such as they know to be true, but take to be true. For where a proposition is known to be true, revelation is needless: and it

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help us find the sun as examine the heavenly ray by our dim candle, reason.

How enthusiasm is to be detected.—This is how these men talk. They are sure because they are sure, and their convictions are right because they hold them strongly. Strip what they say of the metaphor of seeing and feeling, and this is all it amounts to. And yet these similes so impose on them that they serve them as certainty in themselves and as demonstration to others.

But let us examine a little soberly this internal light, and this feeling on which they build so much. These men say they have clear light, and they see; they have awakened sense, and they feel. They are sure no one can dispute this with them. For when a man says he sees or feels, nobody can deny that he does. But here let me ask: this seeing, is it the perception of the truth of the proposition, or the perception that it is a revelation from God? This feeling, is it a perception of an inclination or fancy to do something, or a perception of the Spirit of God moving that inclination?

These are two very different perceptions, and they must be carefully distinguished if we do not want to deceive ourselves. I may perceive the truth of a proposition and still not perceive that it is an immediate revelation from God. I may perceive the truth of a proposition in Euclid without its being a revelation, or without my perceiving it to be one. Indeed, I may perceive that I did not come by this knowledge in a natural way, and so conclude that it was revealed, without perceiving that it is a revelation from God. For there are spirits that are not divinely commissioned and yet may excite those ideas in me, and lay them before my mind in such an order that I perceive their connection.

So when a proposition comes into my mind and I do not know how, my knowledge of it is not a perception that it is from God. Much less is a strong conviction that it is true a perception that it is from God, or even that it is true. However much it may be called light and seeing, I suppose it is at most only belief and assurance. The proposition taken for a revelation is not one they know to be true, but one they take to be true. For where a proposition is known to be true, revelation is need-

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is hard to conceive how there can be a revelation to any one of what he knows already.

If, therefore, it be a proposition which they are persuaded, but do not know, to be true, whatever they may call it, it is not seeing, but believing. For these are two ways, whereby truth comes into the mind, wholly distinct, so that one is not the other. What I see, I know to be so by the evidence of the thing itself: what I believe, I take to be so upon the testimony of another; but this testimony I must know to be given, or else what ground have I of believing? I must see that it is God that reveals this to me, or else I see nothing.

The question then here is, how do I know that God is the revealer of this to me; that this impression is made upon my mind by his Holy Spirit, and that therefore I ought to obey it? If I know not this, how great soever the assurance is that I am possessed with, it is groundless; whatever light I pretend to, it is but enthusiasm. For whether the proposition supposed to be revealed be in itself evidently true, or visibly probable, or by the natural ways of knowledge uncertain, the proposition that must be well grounded, and manifested to be true.

is this, that God is the revealer of it, and that what I take to be a revelation is certainly put into my mind by him, and is not an illusion dropped in by some other spirit, or raised by my own fancy. For if I mistake not, these men receive it for true, because they presume God revealed it. Does it not then stand them upon, to examine on what grounds they presume it to be a revelation from God?

or else all their confidence is mere presumption: and this light they are so dazzled with is nothing but an ignis fatuus, that leads them constantly round in this circle: it is a revelation, because they firmly believe it, and they believe it because it is a revelation.

4.19.11 *Enthusiasm fails of evidence that the proposition is from God.*—In all that is of divine revelation, there is need of no other proof but that it is an inspiration from God: for he can neither deceive nor be deceived. But how shall it be known that any proposition in our minds is a truth infused by God, a truth that is revealed to us by him, which he declares to us, and therefore we ought to

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less. And it is hard to conceive how there can be a revelation to anyone of what he knows already.

If, then, it is a proposition they are persuaded is true but do not know to be true, then whatever they may call it, it is not seeing but believing. For these are two wholly distinct ways by which truth comes into the mind, so that one is not the other. What I see, I know to be so by the evidence of the thing itself. What I believe, I take to be so on the testimony of another. But I must know that this testimony has been given; otherwise what ground do I have for believing? I must see that it is God who reveals this to me, or else I see nothing.

The question here, then, is this. How do I know that God is the one revealing this to me? How do I know that this impression is made on my mind by his Holy Spirit, and that I therefore ought to obey it? If I do not know this, then however great the assurance I am possessed with, it is groundless, and whatever light I claim is nothing but enthusiasm. The proposition supposed to be revealed may be evidently true in itself, or visibly probable, or uncertain by the natural ways of knowledge. Either way, the proposition that must be well grounded and shown to be true

is this: that God is the revealer of it, and that what I take to be a revelation is certainly put into my mind by him, and is not an illusion dropped in by some other spirit or raised by my own imagination. For, if I am not mistaken, these men accept it as true because they presume God revealed it. Is it not incumbent on them, then, to examine on what grounds they presume it to be a revelation from God?

If they do not, all their confidence is mere presumption, and this light that so dazzles them is nothing but a will-o'-the-wisp. It leads them constantly around this circle: it is a revelation because they firmly believe it, and they believe it because it is a revelation.

Enthusiasm lacks evidence that the proposition is from God.—Anything that is divine revelation needs no other proof than that it is an inspiration from God, for he can neither deceive nor be deceived. But how is it to be known that a proposition in our minds is a truth infused by God? How do we know it is a truth he has revealed to us and declared to us, which we therefore ought to believe? It is here

believe? Here it is that enthusiasm fails of the evidence it pretends to. For men thus possessed boast of a light whereby they say they are enlightened, and brought into the knowledge of this or that truth.

But if they know it to be a truth, they must know it to be so, either by its own self-evidence to natural reason, or by the rational proofs that make it out to be so. If they see and know it to be a truth, either of these two ways, they in vain suppose it to be a revelation. For they know it to be true the same way that any other man naturally may know that it is so without the help of revelation. For thus all the truths, of what kind soever, that men uninspired are enlightened with, came into their minds, and are established there.

If they say they know it to be true, because it is a revelation from God, the reason is good: but then it will be demanded how they know it to be a revelation from God. If they say, by the light it brings with it, which shines bright in their minds, and they cannot resist: I beseech them to consider whether this be any more than what we have taken notice of already, viz. that it is a revelation, because they strongly believe it to be true. For all the light they speak of is but a strong, though ungrounded, persuasion of their own minds, that it is a truth.

For rational grounds from proofs that it is a truth, they must acknowledge to have none; for then it is not received as a revelation, but upon the ordinary grounds that other truths are received: and if they believe it to be true, because it is a revelation, and have no other reason for its being a revelation, but because they are fully persuaded, without any other reason, that it is true; they believe it to be a revelation only because they strongly believe it to be a revelation; which is a very unsafe ground to proceed on, either in our tenets or actions.

And what readier way can there be to run ourselves into the most extravagant errors and miscarriages, than thus to set up fancy for our supreme and sole guide, and to believe any proposition to be true, any action to be right, only because we believe it to be so? The strength of our persuasions is no evidence at all of their own rectitude: crooked things may be as stiff and inflexible as straight; and men may be as positive

that enthusiasm lacks the evidence it claims. For men possessed in this way boast of a light by which, they say, they are enlightened and brought to the knowledge of this or that truth.

But if they know it to be a truth, they must know it to be so in one of two ways: either by its own self-evidence to natural reason, or by the rational proofs that establish it. If they see and know it to be a truth in either of these ways, they suppose in vain that it is a revelation. For they know it to be true in the same way that any other man may naturally know it without the help of revelation. That is how all truths, of whatever kind, that enlighten uninspired men came into their minds and are established there.

If they say they know it to be true because it is a revelation from God, the reason is good. But then it will be asked how they know it to be a revelation from God. They may say they know it by the light it brings with it, which shines brightly in their minds and which they cannot resist. If so, I beg them to consider whether this is anything more than what we have already noticed, namely, that it is a revelation because they strongly believe it to be true. For all the light they speak of is only a strong, though ungrounded, conviction in their own minds that it is a truth.

As for rational grounds from proofs that it is a truth, they must admit they have none. If they had them, it would not be received as a revelation, but on the ordinary grounds on which other truths are received. Suppose they believe it to be true because it is a revelation, and have no reason for its being a revelation except that they are fully persuaded, without any other reason, that it is true. Then they believe it to be a revelation only because they strongly believe it to be a revelation. That is a very unsafe ground to proceed on, whether in our beliefs or in our actions.

And what quicker way could there be to run ourselves into the most extravagant errors and misconduct than to set up fancy in this way as our supreme and only guide? What quicker way than to believe any proposition to be true, or any action to be right, only because we believe it to be so? The strength of our convictions is no evidence at all of their correctness. Crooked things may be as stiff and inflexible as straight ones, and men may

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and peremptory in error as in truth. How come else the untractable zealots in different and opposite parties?

For if the light, which every one thinks he has in his mind, which in this case is nothing but the strength of his own persuasion, be an evidence that it is from God, contrary opinions have the same title to inspirations; and God will be not only the father of lights, but of opposite and contradictory lights, leading men contrary ways; and contradictory propositions will be divine truths, if an ungrounded strength of assurance be an evidence that any proposition is a divine revelation.

4.19.12 *Firmness of persuasion no proof that any proposition is from God.*—This cannot be otherwise, whilst firmness of persuasion is made the cause of believing, and confidence of being in the right is made an argument of truth. St Paul himself believed he did well, and that he had a call to it when he persecuted the Christians, whom he confidently thought in the wrong: but yet it was he, and not they, who were mistaken. Good men are men still liable to mistakes; and are sometimes warmly engaged in errors which they take for divine truths, shining in their minds with the clearest light.

4.19.13 *Light in the mind, what.*—Light, true light, in the mind is or can be nothing else but the evidence of the truth of any proposition; and if it be not a self-evident proposition, all the light it has, or can have, is from the clearness and validity of those proofs upon which it is received. To talk of any other light in the understanding, is to put ourselves in the dark, or in the power of the Prince of darkness, and by our own consent to give ourselves up to delusion, to believe a lie.

For if strength of persuasion be the light which must guide us; I ask how shall any one distinguish between the delusions of Satan and the inspirations of the Holy Ghost? He can transform himself into an angel of light. And they who are led by this son of the morning are as fully satisfied of the illumination, *i. e.* are as strongly persuaded that they are enlightened by the Spirit of God, as any one who is so; they acquiesce and rejoice in it, are acted by it: and nobody can be

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be as positive and peremptory in error as in truth. How else do we come to have unmanageable zealots in different and opposing parties?

Everyone thinks he has this light in his mind, and in this case it is nothing but the strength of his own conviction. If that light is evidence that something is from God, then contrary opinions have the same claim to be inspirations. God will be the father not only of lights, but of opposite and contradictory lights, leading men in contrary directions. And contradictory propositions will be divine truths, if an ungrounded strength of assurance is evidence that a proposition is a divine revelation.

Firmness of conviction no proof that any proposition is from God.—This cannot be otherwise as long as firmness of conviction is made the cause of believing, and confidence in being right is made an argument for truth. St. Paul himself believed he was doing right, and that he had a call to it, when he persecuted the Christians, whom he confidently thought to be in the wrong. Yet it was he, not they, who was mistaken. Good men are still men, liable to mistakes. They are sometimes warmly committed to errors that they take for divine truths shining in their minds with the clearest light.

Light in the mind, what it is.—Light, true light, in the mind is, and can be, nothing but the evidence of the truth of a proposition. If it is not a self-evident proposition, all the light it has or can have comes from the clearness and validity of the proofs on which it is received. To talk of any other light in the understanding is to put ourselves in the dark, or in the power of the Prince of Darkness. It is to give ourselves up, by our own consent, to delusion, and to believe a lie.

For if strength of conviction is the light that must guide us, I ask: how is anyone to distinguish between the delusions of Satan and the inspirations of the Holy Spirit? Satan can transform himself into an angel of light. Those who are led by this son of the morning are as fully satisfied of their illumination as anyone who really is enlightened. That is, they are just as strongly convinced that they are enlightened by the Spirit of God. They acquiesce and rejoice in it, and are moved by it. Nobody can be more sure than they

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more sure, nor more in the right (if their own strong belief may be judge) than they.

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are, or more in the right, if their own strong belief may be the judge.[15]

REASON AS THE LAST JUDGE

Revelation must be judged by reason and Scripture, as the prophets of old were given outward signs.

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4.19.14 *Revelation must be judged of by reason.*—He, therefore, that will not give himself up to all the extravagancies of delusion and error, must bring this guide of his light within to the trial. God, when he makes the prophet, does not unmake the man. He leaves all his faculties in the natural state, to enable him to judge of his inspirations, whether they be of divine original or no. When he illuminates the mind with supernatural light, he does not extinguish that which is natural.

If he would have us assent to the truth of any proposition, he either evidences that truth by the usual methods of natural reason, or else makes it known to be a truth which he would have us assent to, by his authority; and convinces us that it is from him, by some marks which reason cannot be mistaken in. Reason must be our last judge and guide in every thing. I do not mean that we must consult reason, and examine whether a proposition revealed from God can be made out by natural principles, and if it cannot, that then we may reject it: but consult it we must, and by it examine whether it be a revelation from God or no.

And if reason finds it to be revealed from God, reason then declares for it as much as for any other truth, and makes it one of her dictates. Every conceit that thoroughly warms our fancies must pass for an inspiration, if there be nothing but the strength of our persuasions, whereby to judge of our persuasions: if reason must not examine their truth by something extrinsical to the persuasions themselves, inspirations and delusions, truth and falsehood, will have the same measure, and will not be possible to be distinguished.

4.19.15 *Belief no proof of revelation.*—If this internal light, or any proposition which under that title we take for inspired, be conformable to the principles of reason, or to the word of God, which is attested

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Revelation must be judged by reason.—Anyone, therefore, who will not give himself up to all the extravagances of delusion and error must put this guide of his, the light within, to the test. God, when he makes the prophet, does not unmake the man. He leaves all the man's faculties in their natural state, so that he can judge whether his inspirations are of divine origin or not. When God illuminates the mind with supernatural light, he does not extinguish the natural light.

If he would have us assent to the truth of a proposition, he does one of two things. Either he makes that truth evident by the usual methods of natural reason, or he makes it known, by his authority, to be a truth he would have us assent to, and convinces us that it is from him by some marks about which reason cannot be mistaken. Reason must be our last judge and guide in everything. I do not mean that we must consult reason and examine whether a proposition revealed by God can be established by natural principles, and then reject it if it cannot. But consult reason we must, and by it examine whether the proposition is a revelation from God or not.

And if reason finds it to be revealed by God, reason then declares for it as much as for any other truth, and makes it one of her own dictates. If we have nothing but the strength of our convictions by which to judge our convictions, every notion that thoroughly warms our imagination must pass for an inspiration. If reason may not examine their truth by something outside the convictions themselves, then inspirations and delusions, truth and falsehood, will have the same measure, and it will be impossible to tell them apart.

Belief no proof of revelation.—Take this internal light, or any proposition that under that title we take to be inspired. If it agrees with the principles

15 "Angel of light": 2 Corinthians 11:14. "Son of the morning": Isaiah 14:12, traditionally read as referring to Lucifer, that is, Satan.

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revelation, reason warrants it, and we may safely receive it for true, and be guided by it in our belief and actions: if it receive no testimony nor evidence from either of these rules, we cannot take it for a revelation, or so much as for true, till we have some other mark that it is a revelation besides our believing that it is so.

Thus we see the holy men of old, who had revelations from God, had something else besides that internal light of assurance in their own minds, to testify to them that it was from God. They were not left to their own persuasions alone, that those persuasions were from God; but had outward signs to convince them of the author of those revelations. And when they were to convince others, they had a power given them to justify the truth of their commission from heaven, and by visible signs to assert the divine authority of a message they were sent with. Moses saw the bush burn without being consumed, and heard a voice out of it.

This was something besides finding an impulse upon his mind to go to Pharaoh, that he might bring his brethren out of Egypt: and yet he thought not this enough to authorize him to go with that message, till God, by another miracle of his rod turned into a serpent, had assured him of a power to testify his mission, by the same miracle repeated before them, whom he was sent to. Gideon was sent by an angel to deliver Israel from the Midianites, and yet he desired a sign to convince him that this commission was from God.

These, and several the like instances to be found among the prophets of old, are enough to show that they thought not an inward seeing or persuasion of their own minds, without any other proof, a sufficient evidence that it was from God; though the Scripture does not every where mention their demanding or having such proofs.

4.19.16 In what I have said I am far from denying that God can or doth sometimes enlighten men's minds in the apprehending of certain truths, or excite them to good actions by the immediate

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of reason, or with the word of God, which is attested revelation, reason warrants it. We may then safely accept it as true and be guided by it in our belief and actions. If it receives no testimony or evidence from either of these rules, we cannot take it for a revelation, or even for true, until we have some other mark that it is a revelation besides our believing that it is one.

So we see that the holy men of old who had revelations from God had something else, besides that internal light of assurance in their own minds, to testify to them that it was from God. They were not left to rely on their convictions alone for the belief that those convictions came from God. They had outward signs to convince them of the author of those revelations. And when they had to convince others, they were given a power to justify the truth of their commission from heaven, and to assert by visible signs the divine authority of the message they were sent with. Moses saw the bush burn without being consumed, and heard a voice out of it.

This was something more than finding an impulse in his mind to go to Pharaoh so that he might bring his brethren out of Egypt. And yet he did not think this enough to authorize him to go with that message. God then worked another miracle and turned his rod into a serpent, which assured him that he had a power to testify to his mission by repeating the same miracle before those he was sent to. Gideon was sent by an angel to deliver Israel from the Midianites, and yet he asked for a sign to convince him that this commission was from God.[16]

These instances, and several like them to be found among the prophets of old, are enough to show that the prophets did not think an inward seeing or conviction of their own minds, without any other proof, was sufficient evidence that it was from God. This holds even though Scripture does not everywhere mention their asking for or having such proofs.

In what I have said I am far from denying that God can, or sometimes does, enlighten men's minds in grasping certain truths, or stir them to good actions, by the immediate influence and assistance

16 Moses: Exodus 3–4. Gideon: Judges 6.

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influence and assistance of the Holy Spirit, without any extraordinary signs accompanying it. But in such cases, too, we have reason and Scripture, unerring rules to know whether it be from God or no.

Where the truth embraced is consonant to the revelation in the written word of God, or the action conformable to the dictates of right reason or holy writ, we may be assured that we run no risk in entertaining it as such; because, though perhaps it be not an immediate revelation from God, extraordinarily operating on our minds, yet we are sure it is warranted by that revelation which he has given us of truth. But it is not the strength of our private persuasion within ourselves that can warrant it to be a light or motion from heaven; nothing can do that but the written word of God without us, or that standard of reason which is common to us with all men.

Where reason or scripture is express for any opinion or action, we may receive it as of divine authority; but it is not the strength of our persuasions which can by itself give it that stamp. The bent of our own minds may favour it as much as we please; that may show it to be a fondling of our own, but will by no means prove it to be an offspring of heaven, and of divine original.

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of the Holy Spirit, without any extraordinary signs accompanying it. But in such cases too we have reason and Scripture, unerring rules for knowing whether it is from God or not.

Where the truth embraced agrees with the revelation in the written word of God, or the action accords with the dictates of right reason or holy writ, we may be assured that we run no risk in accepting it as such. Perhaps it is not an immediate revelation from God working extraordinarily on our minds. Yet we are sure it is warranted by the revelation of truth that he has given us. But the strength of our private conviction within ourselves cannot warrant it to be a light or motion from heaven. Nothing can do that but the written word of God outside us, or that standard of reason which we share with all men.

Where reason or Scripture is explicit for any opinion or action, we may accept it as having divine authority. But the strength of our convictions cannot by itself give it that stamp. The bent of our own minds may favor it as much as we like. That may show it to be a darling of our own, but it will by no means prove it to be an offspring of heaven, of divine origin.

ERROR

Wrong assent comes from lack of proofs, lack of skill, lack of will, and wrong measures of probability.

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4.20.1 *Causes of error.*—Knowledge being to be had only of visible and certain truth, error is not a fault of our knowledge, but a mistake of our judgment, giving assent to that which is not true.

But if assent be grounded on likelihood, if the proper object and motive of our assent be probability, and that probability consists in what is laid down in the foregoing chapters, it will be demanded how men come to give their assents contrary to probability. For there is nothing more common than contrariety of opinions; nothing more obvious than that one man wholly disbelieves what another only doubts of, and a third steadfastly believes and firmly adheres to. The reasons whereof, though they may be very various, yet I suppose may all be reduced to these four:

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Causes of error.—Knowledge is to be had only of visible and certain truth. Error, therefore, is not a fault of our knowledge but a mistake of our judgment, which gives assent to what is not true.

But suppose assent is grounded on likelihood. Suppose the proper object and motive of our assent is probability, and that probability consists in what was set out in the preceding chapters. Then it will be asked how men come to give their assent contrary to probability. For nothing is more common than conflicting opinions. Nothing is more obvious than that one man wholly disbelieves what another only doubts, and a third steadfastly believes and firmly holds to. The reasons for this may be very various, but I suppose they can all be reduced to these four:

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1. Want of proofs. 2. Want of ability to use them. 3. Want of will to use them. 4. Wrong measures of probability.

4.20.2 1. *Want of proofs.*—First, By want of proofs, I do not mean only the want of those proofs which are nowhere extant, and so are nowhere to be had; but the want even of those proofs which are in being, or might be procured. And thus men want proofs who have not the convenience or opportunity to make experiments and observations themselves tending to the proof of any proposition; nor likewise the convenience to inquire into and collect the testimonies of others: and in this state are the greatest part of mankind, who given up to labour, and enslaved to the necessity of their mean condition, whose lives are worn out only in the provisions for living.

These men's opportunities of knowledge and inquiry are commonly as narrow as their fortunes; and their understandings are but little instructed, when all their whole time and pains are laid out to still the croakings of their own bellies, or the cries of their children. It is not to be expected that a man, who drudges on all his life in a laborious trade, should be more knowing in the variety of things done in the world than a packhorse, who is driven constantly forward and backward in a narrow lane and dirty road only to market, should be skilled in the geography of the country.

Nor is it at all more possible, that he who wants leisure, books, and languages, and the opportunity of conversing with variety of men, should be in a condition to collect those testimonies and observations which are in being, and are necessary to make out many, nay most of the propositions that, in the societies of men, are judged of the greatest moment; or to find out grounds of assurance so great as the belief of the points he would build on them is thought necessary.

So that a great part of mankind are, by the natural and unalterable state of things in this world, and the constitution of human affairs, unavoidably given over to invincible ignorance of those proofs on which others build, and which are necessary to establish those opinions: the greatest part of men, having much to do to get the means of

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1. Lack of proofs. 2. Lack of ability to use them. 3. Lack of will to use them. 4. Wrong measures of probability.

1. *Lack of proofs.*—First, by lack of proofs I do not mean only the lack of proofs that exist nowhere and so are nowhere to be had. I also mean the lack of proofs that do exist or could be obtained. In this sense men lack proofs when they do not have the means or opportunity to make experiments and observations themselves that bear on the proof of a proposition, and do not have the means to inquire into and collect the testimonies of others. This is the state of the greater part of mankind. They are given over to labor and enslaved to the necessity of their humble condition, and their lives are worn out simply in providing for living.

These men's opportunities for knowledge and inquiry are commonly as narrow as their fortunes. Their understandings receive little instruction when all their time and effort are spent quieting the growling of their own bellies or the cries of their children. A man who drudges all his life at a laborious trade cannot be expected to know much about the variety of things done in the world. It would be like expecting a packhorse to be skilled in the geography of the country when it is driven constantly back and forth along a narrow lane and dirty road, only to market.

A man may lack leisure, books, and languages, and the opportunity of conversing with a variety of men. Such a man is in no position to collect the testimonies and observations that exist and are needed to establish many, indeed most, of the propositions that human societies judge most important. Nor can he find grounds of assurance as great as the belief he would build on them is thought to require.

So a great part of mankind, by the natural and unalterable state of things in this world and the constitution of human affairs, is unavoidably given over to invincible ignorance of the proofs on which others build, and which are needed to establish those opinions. Most men have a great deal to do just to get the means of living. They are in no

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living, are not in a condition to look after those of learned and laborious inquiries.

4.20.3 *Obj. What shall become of those who want them, answered*—What shall we say then? Are the greatest part of mankind by the necessity of their condition, subjected to unavoidable ignorance in those things which are of greatest importance to them? (for of these it is obvious to inquire.) Have the bulk of mankind no other guide but accident and blind chance to conduct them to their happiness or misery? Are the current opinions and licensed guides of every country sufficient evidence and security to every man to venture his great concernments on, nay, his everlasting happiness or misery? Or can those be the certain and infallible oracles and standards of truth, which teach one thing in Christendom and another in Turkey?

Or shall a poor countryman be eternally happy for having the chance to be born in Italy; or a day-labourer be unavoidably lost because he had the ill luck to be born in England? How ready some men may be to say some of these things I will not here examine: but this I am sure, that men must allow one or other of these to be true (let them choose which they please), or else grant that God has furnished men with faculties sufficient to direct them in the way they should take, if they will but seriously employ them that way, when their ordinary vocations allow them the leisure.

No man is so wholly taken up with the attendance on the means of living, as to have no spare time at all to think of his soul, and inform himself in matters of religion. Were men as intent upon this as they are on things of lower concernment, there are none so enslaved to the necessities of life who might not find many vacancies that might be husbanded to this advantage of their knowledge.

4.20.4 *People hindered from inquiry.*—Besides those whose improvements and informations are straitened by the narrowness of their fortunes, there are others whose largeness of fortune would plentifully enough supply books and other requisites for clearing of doubts and discovering of truth: but they are cooped in close by the laws of their countries, and the strict guards of those whose

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position to pursue the means of learned and laborious inquiry.

Objection: what will become of those who lack them? Answered.—What shall we say, then? Is the greater part of mankind, by the necessity of their condition, subjected to unavoidable ignorance in the things that matter most to them? (For it is about these that one naturally asks.) Does the bulk of mankind have no other guide than accident and blind chance to lead them to their happiness or misery? Are the current opinions and licensed guides of each country sufficient evidence and security for every man to stake his great concerns on, and even his everlasting happiness or misery? Or can those be the certain and infallible oracles and standards of truth which teach one thing in Christendom and another in Turkey?

Or shall a poor countryman be eternally happy because he happened to be born in Italy, or a day laborer be unavoidably lost because he had the bad luck to be born in England? How ready some men may be to say some of these things I will not examine here. But of this I am sure: men must allow one or another of these to be true (let them choose whichever they like). Otherwise they must grant that God has given men faculties sufficient to direct them in the way they should go, if only they will seriously use them for that purpose when their ordinary occupations give them the leisure.

No man is so wholly occupied with attending to the means of living that he has no spare time at all to think about his soul and inform himself in matters of religion. If men were as intent on this as they are on things of lesser concern, no one would be so enslaved to the necessities of life that he could not find many free moments, which might be put to use for this improvement of his knowledge.

People hindered from inquiry.—Besides those whose improvement and information are restricted by the narrowness of their fortunes, there are others whose large fortunes would amply supply books and the other things needed for clearing up doubts and discovering truth. But these people are shut in closely by the laws of their countries, and by the strict guard kept by those whose interest it is to

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interest it is to keep them ignorant, lest, knowing more, they should believe the less in them. These are as far, nay farther from the liberty and opportunities of a fair inquiry, than those poor and wretched labourers we before spoke of.

And, however they may seem high and great, are confined to narrowness of thought, and enslaved in that which should be the freest part of man, their understandings. This is generally the case of all those who live in places where care is taken to propagate truth without knowledge; where men are forced, at a venture, to be of the religion of the country; and must therefore swallow down opinions, as silly people do empirics' pills, without knowing what they are made of, or how they will work, and having nothing to do but believe that they will do the cure: but in this are much more miserable than they, in that they are not at liberty to refuse swallowing what perhaps they had rather let alone; or to choose the physician to whose conduct they would trust themselves.

4.20.5 2. *Want of skill to use them.*—Secondly, those who want skill to use those evidences they have of probabilities, who cannot carry a train of consequences in their heads, nor weigh exactly the preponderancy of contrary proofs and testimonies, making every circumstance its due allowance, may be easily misled to assent to positions that are not probable. There are some men of one, some but of two syllogisms, and no more; and others that can but advance one step farther. These cannot always discern that side on which the strongest proofs lie; cannot constantly follow that which in itself is the more probable opinion.

Now that there is such a difference between men, in respect of their understandings, I think nobody, who has had any conversation with his neighbours, will question; though he never was at Westminster hall or the exchange, on the one hand; or at alms-houses or bedlam on the other: which great difference in men's intellectuals, whether it rises from any defect in the organs of the body, particularly adapted to thinking; or, in the dulness or untractableness of those faculties for want of use; or, as some think, in the natural differences of men's souls themselves; or some or all of these together, it matters not here to

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keep them ignorant, for fear that if they knew more they would believe less in their keepers. These people are as far, indeed farther, from the liberty and opportunity of a fair inquiry than those poor and wretched laborers we spoke of before.

However high and great they may seem, they are confined to narrowness of thought, and enslaved in what should be the freest part of man, their understanding. This is generally the case with all who live in places where care is taken to propagate truth without knowledge. There men are forced to be of the religion of the country blindly, taking it as it comes. They must therefore swallow opinions the way foolish people swallow quacks' pills, without knowing what they are made of or how they will work, and with nothing to do but believe that they will effect the cure. But in this they are much more miserable than those foolish people. They are not free to refuse to swallow what they might perhaps rather leave alone, or to choose the physician they would trust themselves to.

2. *Lack of skill to use them.*—Second, some people lack the skill to use the evidence of probabilities they have. They cannot carry a chain of consequences in their heads, or weigh exactly the preponderance of opposing proofs and testimonies, giving every circumstance its due weight. Such people may easily be misled into assenting to positions that are not probable. There are some men of one syllogism, some of only two, and no more; and others who can advance only one step further. These cannot always discern the side on which the strongest proofs lie, and cannot consistently follow what is in itself the more probable opinion.

Now, I think nobody who has had any dealings with his neighbors will question that there is such a difference between men in respect of their understandings. He need never have been to Westminster Hall or the Exchange on the one hand, or to almshouses or asylums on the other. This great difference in men's intellects may arise from some defect in the bodily organs particularly adapted to thinking. It may arise from the dullness or intractability of those faculties through lack of use, or, as some think, from natural differences in men's souls themselves, or from some or all of these to-

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examine: only this is evident, that there is a difference of degrees in men's understandings, apprehensions, and reasonings, to so great a latitude, that one may, without doing injury to mankind, affirm, that there is a greater distance between some men and others, in this respect, than between some men and some beasts.

But how this comes about is a speculation, though of great consequence, yet not necessary to our present purpose.

4.20.6 3. *Want of will to use them.*—Thirdly, there are another sort of people that want proofs, not because they are out of their reach, but because they will not use them; who, though they have riches and leisure enough, and want neither parts nor other helps, are yet never the better for them.

Their hot pursuit of pleasure, or constant drudgery in business, engages some men's thoughts elsewhere: laziness and oscitancy in general, or a particular aversion for books, study, and meditation, keep others from any serious thoughts at all: and some out of fear that an impartial inquiry would not favour those opinions which best suit their prejudices, lives, and designs, content themselves, without examination, to take upon trust what they find convenient and in fashion. Thus most men, even of those that might do otherwise, pass their lives without an acquaintance with, much less a rational assent to, probabilities they are concerned to know, though they lie so much within their view, that to be convinced of them they need but turn their eyes that way.

We know some men will not read a letter which is supposed to bring ill news; and many men forbear to cast up their accounts, or so much as think upon their estates, who have reason to fear their affairs are in no very good posture.

How men, whose plentiful fortunes allow them leisure to improve their understandings, can satisfy themselves with a lazy ignorance, I cannot tell: but methinks they have a low opinion of their souls, who lay out all their incomes in provisions for the body, and employ none of it to procure the means and helps of knowledge; who take great care to appear always in a neat and splendid

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gether. It does not matter to examine that here. Only this is evident: men's understandings, apprehensions, and reasonings differ in degree so widely that one may, without doing injury to mankind, affirm this. In this respect there is a greater distance between some men and others than between some men and some beasts.[17]

But how this comes about is a speculation that, though of great consequence, is not necessary to our present purpose.

3. *Lack of will to use them.*—Third, there is another sort of people who lack proofs, not because the proofs are out of their reach but because they will not use them. They have wealth and leisure enough, and lack neither abilities nor other aids, and yet they are none the better for them.

The eager pursuit of pleasure, or constant drudgery in business, keeps some men's thoughts elsewhere. Laziness and inattention in general, or a particular aversion to books, study, and meditation, keep others from any serious thought at all. And some fear that an impartial inquiry would not favor the opinions that best suit their prejudices, lives, and designs. So they content themselves with taking on trust, without examination, whatever they find convenient and fashionable. In this way most men, even among those who could do otherwise, pass their lives without any acquaintance with the probabilities they have a stake in knowing, much less a rational assent to them. Yet these probabilities lie so much within their view that to be convinced of them they need only turn their eyes that way.

We know that some men will not read a letter thought to bring bad news. And many men who have reason to fear their affairs are in no very good shape refrain from doing their accounts, or even thinking about their estates.

Some men's ample fortunes allow them leisure to improve their understandings. How such men can be satisfied with lazy ignorance, I cannot tell. But it seems to me that they have a low opinion of their souls. They spend all their income on provisions for the body and none of it on obtaining the means and aids of knowledge. They take great care always to present a neat and splendid exterior, and

17 Westminster Hall housed England's chief law courts; the Royal Exchange was the meeting place of London's merchants.

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outside, and would think themselves miserable in coarse clothes, or a patched coat, and yet contentedly suffer their minds to appear abroad in a pie-bald livery of coarse patches and borrowed shreds, such as it has pleased chance or their country tailor (I mean the common opinion of those they have conversed with) to clothe them in.

I will not here mention how unreasonable this is for men that ever think of a future state, and their concernment in it, which no rational man can avoid to do sometimes; nor shall take notice what a shame and confusion it is, to the greatest contemners of knowledge, to be found ignorant in things they are concerned to know. But this at least is worth the consideration of those who call themselves gentlemen, that however they may think credit, respect, power, and authority, the concomitants of their birth and fortune, yet they will find all these still carried away from them by men of lower condition, who surpass them in knowledge.

They who are blind will always be led by those that see, or else fall into the ditch: and he is certainly the most subjected, the most enslaved, who is so in his understanding. In the foregoing instances, some of the causes have been shown of wrong assent, and how it comes to pass, that probable doctrines are not always received with an assent proportionable to the reasons which are to be had for their probability: but hitherto we have considered only such probabilities whose proofs do exist, but do not appear to him who embraces the error.

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would think themselves miserable in coarse clothes or a patched coat. And yet they contentedly let their minds go out in public in a piebald livery of coarse patches and borrowed scraps, whatever chance or their country tailor has been pleased to clothe them in. (By their country tailor I mean the common opinion of the people they have associated with.)

I will not mention here how unreasonable this is for men who ever think of a future state and their stake in it, which no rational man can avoid doing sometimes. Nor will I point out what a shame and embarrassment it is, even to the greatest despisers of knowledge, to be found ignorant of things they have a stake in knowing. But this at least is worth the consideration of those who call themselves gentlemen. They may think that credit, respect, power, and authority are the companions of their birth and fortune. Yet they will find all these still being carried off by men of lower condition who surpass them in knowledge.

Those who are blind will always be led by those who see, or else fall into the ditch. And the man who is subjected in his understanding is certainly the most subjected and the most enslaved of all. In the preceding cases some of the causes of wrong assent have been shown. We have seen how it comes about that probable doctrines are not always received with an assent proportionate to the reasons there are for their probability. But so far we have considered only those probabilities whose proofs do exist but do not appear to the person who embraces the error.

WRONG MEASURES OF PROBABILITY

Doubtful principles, received hypotheses, ruling passions, and authority lead men to assent wrongly.

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4.20.7 4. *Wrong measures of probability; whereof,*— Fourthly, There remains yet the last sort, who, even where the real probabilities appear, and are plainly laid before them, do not admit of the conviction, nor yield unto manifest reasons, but do either ἐπέχειν, suspend their assent, or give it to the less probable opinion: and to this danger are those exposed who have taken up wrong measures of probability; which are,

1. Propositions that are not in themselves certain and evident, but doubtful and false, taken up for principles. 2. Received hypotheses. 3. Predominant passions or inclinations. 4. Authority.

4.20.8 1. *Doubtful propositions taken for principles.*—First, The first and firmest ground of probability is the conformity any thing has to our knowledge, especially that part of our knowledge which we have embraced, and continue to look on as principles. These have so great an influence upon our opinions, that it is usually by them we judge of truth, and measure probability to that degree, that what is inconsistent with our principles is so far from passing for probable with us, that it will not be allowed possible.

The reverence borne to these principles is so great, and their authority so paramount to all other, that the testimony not only of other men, but the evidence of our own senses are often rejected, when they offer to vouch any thing contrary to these established rules. How much the doctrine of innate principles, and that principles are not to be proved or questioned, has contributed to this, I will not here examine.

This I readily grant, that one truth cannot contradict another: but withal I take leave also to say, that every one ought very carefully to beware what he admits for a principle, to examine it strictly, and see whether he certainly knows it to be true of itself by its own evidence, or whether he does only with assurance believe it to be so upon the authority of others. For he hath a strong

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4. *Wrong measures of probability; of these:*—Fourthly, there remains the last sort: those who, even where the real probabilities appear and are plainly laid before them, do not accept being convinced and do not yield to evident reasons, but either ἐπέχειν, suspend their assent, or give it to the less probable opinion. This danger threatens those who have adopted wrong measures of probability. These are:[18]

1. Propositions that are not certain and evident in themselves, but doubtful and false, taken up as principles. 2. Received hypotheses. 3. Predominant passions or inclinations. 4. Authority.

1. *Doubtful propositions taken for principles.*—First, the first and firmest ground of probability is the conformity anything has with our knowledge, especially with that part of our knowledge which we have embraced and continue to regard as principles. These have so great an influence on our opinions that we usually judge of truth and measure probability by them. They do so to such a degree that what is inconsistent with our principles, far from passing as probable with us, will not even be allowed to be possible.

The reverence paid to these principles is so great, and their authority so far above all other authority, that not only the testimony of other men but even the evidence of our own senses is often rejected when it offers to vouch for anything contrary to these established rules. How much the doctrine of innate principles, and the doctrine that principles are not to be proved or questioned, has contributed to this, I will not examine here.

This much I readily grant: one truth cannot contradict another. But I also take the liberty of saying that everyone ought to be very careful what he admits as a principle. He should examine it strictly, and see whether he certainly knows it to be true of itself, by its own evidence, or whether he only believes it confidently on the authority of others. For whoever has absorbed wrong principles, and has

18 ἐπέχειν (epechein), "to hold back," is the ancient Skeptics' term for suspending judgment.

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bias put into his understanding, which will unavoidably misguide his assent who hath imbibed wrong principles, and has blindly given himself up to the authority of any opinion in itself not evidently true.

4.20.9 There is nothing more ordinary than children's receiving into their minds propositions (especially about matters of religion) from their parents, nurses, or those about them: which being insinuated into their unwary, as well as unbiassed understandings, and fastened by degrees, are at last (equally whether true or false) riveted there by long custom and education, beyond all possibility of being pulled out again.

For men, when they are grown up, reflecting upon their opinions, and finding those of this sort to be as ancient in their minds as their very memories, not having observed their early insinuation, nor by what means they got them, they are apt to reverence them as sacred things, and not to suffer them to be profaned, touched, or questioned; they look on them as the Urim and Thummim set up in their minds immediately by God himself, to be the great and unerring deciders of truth and falsehood, and the judges to which they are to appeal in all manner of controversies.

4.20.10 This opinion of his principles (let them be what they will) being once established in any one's mind, it is easy to be imagined what reception any proposition shall find, how clearly soever proved, that shall invalidate their authority, or at all thwart with these internal oracles; whereas the grossest absurdities and improbabilities, being but agreeable to such principles, go down glibly, and are easily digested. The great obstinacy that is to be found in men firmly believing quite contrary opinions, though many times equally absurd, in the various religions of mankind, are as evident a proof, as they are an unavoidable consequence, of this way of reasoning from received traditional principles.

So that men will disbelieve their own eyes, renounce the evidence of their senses, and give their own experience the lie, rather than admit of any thing disagreeing with these sacred tenets.

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blindly given himself up to the authority of some opinion that is not in itself evidently true, has a strong bias put into his understanding, which will unavoidably misguide his assent.

Nothing is more common than for children to receive into their minds propositions (especially about matters of religion) from their parents, nurses, or those around them. These are slipped into their unwary, as well as unbiased, understandings and fastened there by degrees. At last, whether they are true or false alike, they are riveted there by long custom and education, beyond all possibility of being pulled out again.

For when men are grown up and reflect on their opinions, they find that those of this sort are as old in their minds as their very memories. Since they never noticed these opinions being slipped in so early, or by what means they got them, they are apt to revere them as sacred things and not to allow them to be profaned, touched, or questioned. They look on them as the Urim and Thummim, set up in their minds directly by God himself, to be the great and unerring deciders of truth and falsehood, and the judges to which they are to appeal in every kind of controversy.[19]

Once this opinion of his principles (let them be what they will) is established in anyone's mind, it is easy to imagine what reception will be given to any proposition that would undermine their authority or in any way cut across these internal oracles, however clearly it is proved. Meanwhile the grossest absurdities and improbabilities, provided they agree with such principles, go down smoothly and are easily digested. Men firmly believe quite contrary opinions in the various religions of mankind, though these opinions are often equally absurd, and they hold them with great obstinacy. That obstinacy is as evident a proof of this way of reasoning from received, traditional principles as it is an unavoidable consequence of it.

So men will disbelieve their own eyes, renounce the evidence of their senses, and give the lie to their own experience, rather than admit anything that disagrees with these sacred tenets. Take an in-

19 The Urim and Thummim were objects carried in the breastplate of the Israelite high priest and used to learn God's will (Exodus 28:30).

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Take an intelligent Romanist, that from the first dawning of any notions in his understanding, hath had this principle constantly inculcated, viz. that he must believe as the church (*i. e.* those of his communion) believes, or that the pope is infallible; and this he never so much as heard questioned, till at forty or fifty years old he met with one of other principles: how is he prepared easily to swallow, not only against all probability, but even the clear evidence of his senses, the doctrine of transubstantiation!

This principle has such an influence on his mind, that he will believe that to be flesh which he sees to be bread. And what way will you take to convince a man of any improbable opinion he holds, who, with some philosophers, hath laid down this as a foundation of reasoning, that he must believe his reason (for so men improperly call arguments drawn from their principles) against his senses? Let an enthusiast be principled, that he or his teacher is inspired, and acted by an immediate communication of the divine Spirit, and you in vain bring the evidence of clear reasons against his doctrine.

Whoever, therefore, have imbibed wrong principles, are not, in things inconsistent with these principles, to be moved by the most apparent and convincing probabilities, till they are so candid and ingenuous to themselves as to be persuaded to examine even those very principles, which many never suffer themselves to do.

4.20.11 2. *Received hypotheses.*—Secondly, next to these are men whose understandings are cast into a mould, and fashioned just to the size of a received hypothesis. The difference between these and the former is, that they will admit of matter of fact, and agree with dissenters in that; but differ only in assigning of reasons, and explaining the manner of operation.

These are not at that open defiance with their senses with the former: they can endure to hearken to their information a little more patiently; but will by no means admit of their reports in the explanation of things; nor be prevailed on by probabilities, which would convince them that things are not brought about just after the same manner that they have decreed within themselves that they are.

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telligent Roman Catholic who, from the first dawning of any notions in his understanding, has had this principle constantly drilled into him, namely, that he must believe as the church (that is, those of his communion) believes, or that the pope is infallible. Suppose he never so much as heard this questioned until, at forty or fifty years old, he met someone with other principles. How ready he is to swallow the doctrine of transubstantiation, not only against all probability but even against the clear evidence of his senses!

This principle has such an influence on his mind that he will believe that to be flesh which he sees to be bread. And what way will you find to convince a man that an improbable opinion he holds is wrong, if, with some philosophers, he has laid it down as a foundation of reasoning that he must believe his reason (for so men improperly call arguments drawn from their principles) against his senses? Let an enthusiast be grounded in the principle that he or his teacher is inspired and moved by a direct communication from the divine Spirit, and it is in vain that you bring the evidence of clear reasons against his doctrine.

Therefore whoever has absorbed wrong principles cannot be moved by the most evident and convincing probabilities in matters inconsistent with those principles. This holds until they are candid and honest enough with themselves to be persuaded to examine those very principles, which many never allow themselves to do.

2. *Received hypotheses.*—Secondly, next to these are men whose understandings are cast in a mold and shaped exactly to the size of a received hypothesis. The difference between these and the former is that they will admit matter of fact, and agree about it with those who disagree with them. They differ only in assigning the reasons and explaining the manner of operation.

They do not defy their senses as openly as the former do. They can bear to listen a little more patiently to what their senses tell them. But they will by no means accept those reports when it comes to explaining things. Nor will they be won over by probabilities that would convince them that things do not come about in exactly the way they have decided within themselves that they do.

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Would it not be an insufferable thing for a learned professor, and that which his scarlet would blush at, to have his authority of forty years standing, wrought out of hard rock Greek and Latin, with no small expense of time and candle, and confirmed by general tradition and a reverend beard, in an instant overturned by an upstart novelist? Can any one expect that he should be made to confess, that what he taught his scholars thirty years ago was all error and mistake; and that he sold them hard words and ignorance at a very dear rate? What probabilities, I say, are sufficient to prevail in such a case?

And who ever, by the most cogent arguments, will be prevailed with to disrobe himself at once of all his old opinions, and pretences to knowledge and learning, which with hard study he hath all his time been labouring for; and turn himself out stark naked, in quest afresh of new notions? All the arguments that can be used will be as little able to prevail, as the wind did with the traveller to part with his cloak, which he held only the faster. To this of wrong hypothesis may be reduced the errors that may be occasioned by a true hypothesis, or right principles, but not rightly understood. There is nothing more familiar than this.

The instances of men contending for different opinions, which they all derive from the infallible truth of the scripture, are an undeniable proof of it. All that call themselves Christians allow the text, that says, μετανοεῖτε, to carry in it the obligation to a very weighty duty. But yet how very erroneous will one of their practices be, who, understanding nothing but the French, take this rule with one translation to be *repentez vous*, repent; or with the other, *faites penitence*, do penance!

4.20.12 3. *Predominant passions.*—Thirdly, Probabilities, which cross men's appetites and prevailing passions, run the same fate. Let ever so much probability hang on one side of a covetous man's reasoning, and money on the other; it is easy to foresee which will outweigh. Earthly minds, like

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Would it not be intolerable for a learned professor, and something to make his scarlet gown blush, to have his authority overturned in an instant by an upstart innovator? It is an authority of forty years' standing, hewn out of the hard rock of Greek and Latin at no small expense of time and candle, and confirmed by general tradition and a reverend beard. Can anyone expect that he should be made to confess that what he taught his students thirty years ago was all error and mistake, and that he sold them hard words and ignorance at a very high price? What probabilities, I say, are enough to prevail in such a case?[20]

And who will ever be persuaded, by the most compelling arguments, to strip himself all at once of all his old opinions and claims to knowledge and learning, which he has labored for with hard study all his life, and to turn himself out stark naked to search for new notions all over again? All the arguments that can be used will be as unable to prevail as the wind was to make the traveler part with his cloak, which he only held the tighter. The errors that may be caused by a true hypothesis, or by right principles that are not rightly understood, may be included under this heading of wrong hypotheses. Nothing is more familiar than this.[21]

The cases of men contending for different opinions, all of which they derive from the infallible truth of scripture, are undeniable proof of it. All who call themselves Christians agree that the text which says μετανοεῖτε carries in it the obligation to a very weighty duty. But how very mistaken will the practice of someone be who understands nothing but French, if he takes this rule according to one translation to be *repentez vous*, repent, or according to the other, *faites penitence*, do penance![22]

3. *Predominant passions.*—Thirdly, probabilities that cross men's appetites and prevailing passions meet the same fate. Let there be ever so much probability on one side of a greedy man's reasoning, and money on the other: it is easy to foresee which will outweigh. Earthly minds, like mud

20 Scarlet was the color of doctoral robes. Locke's word "novelist" meant an innovator, someone who brings in novelties.
21 Aesop's fable of the North Wind and the Sun, in which the wind fails to blow a traveler's cloak off and the sun's warmth makes him take it off.
22 Μετανοεῖτε, "repent" (for example, Matthew 3:2). Protestant French Bibles rendered it one way, Catholic French Bibles the other.

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mudwalls, resist the strongest batteries: and though perhaps sometimes the force of a clear argument may make some impression, yet they nevertheless stand firm, and keep out the enemy, truth, that would captivate or disturb them. Tell a man, passionately in love, that he is jilted; bring a score of witnesses of the falsehood of his mistress, it is ten to one but three kind words of her's shall invalidate all their testimonies.

Quod volumus, facile credimus; what suits our wishes is forwardly believed; is, I suppose, what every one hath more than once experimented: and though men cannot always openly gainsay or resist the force of manifest probabilities that make against them, yet yield they not to the argument. Not but that it is the nature of the understanding constantly to close with the more probable side; but yet a man hath a power to suspend and restrain its inquiries, and not permit a full and satisfactory examination, as far as the matter in question is capable, and will bear it to be made. Until that be done, there will be always these two ways left of evading the most apparent probabilities.

4.20.13 *The means of evading probabilities:* 1. *Supposed fallacy.*—First, That the arguments being (as for the most part they are) brought in words, there may be a fallacy latent in them; and the consequences being, perhaps, many in train, they may be some of them incoherent. There are very few discourses so short, clear, and consistent, to which most men may not, with satisfaction enough to themselves, raise this doubt; and from whose conviction they may not without reproach of disingenuity or unreasonableness, set themselves free with the old reply, non persuadebis, etiamsi persuaseris; though I cannot answer, I will not yield.

4.20.14 2. *Supposed arguments for the contrary.*—Secondly, Manifest probabilities may be evaded, and the assent withheld upon this suggestion, that I know not yet all that may be said on the contrary side. And therefore, though I be beaten, it is not necessary I should yield, not knowing what forces there are in reserve behind. This is a refuge against conviction so open and so wide, that it is hard to determine when a man is quite out of the verge of it.

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walls, withstand the heaviest bombardment. Perhaps the force of a clear argument may sometimes make some impression, but they still stand firm and keep out the enemy, truth, which would capture or disturb them. Tell a man who is passionately in love that he has been jilted, and bring a score of witnesses to the falseness of his beloved. It is ten to one that three kind words from her will cancel all their testimony.

Quod volumus, facile credimus: what suits our wishes is readily believed. I suppose everyone has experienced this more than once. Men cannot always openly deny or resist the force of evident probabilities that tell against them, but they still do not yield to the argument. It is indeed the nature of the understanding always to settle on the more probable side. But a man has the power to suspend and restrain its inquiries, and to refuse to permit a full and satisfactory examination, as far as the matter in question is capable of one and allows it to be made. Until that is done, there will always be these two ways left of evading the most evident probabilities.

The means of evading probabilities: 1. *Supposed fallacy.*—First, the arguments are presented in words, as for the most part they are, so there may be a fallacy hidden in them. The inferences may also run in a long chain, so some of them may not hang together. There are very few discourses so short, clear, and consistent that most men cannot raise this doubt against them to their own satisfaction. They can then free themselves from being convinced by them, without being charged with dishonesty or unreasonableness, by means of the old reply, non persuadebis, etiamsi persuaseris: though I cannot answer, I will not yield.

2. *Supposed arguments for the contrary.*—Secondly, evident probabilities may be evaded, and assent withheld, on the suggestion that I do not yet know everything that may be said on the other side. So even if I am beaten, I need not yield, since I do not know what forces are held in reserve behind. This refuge from conviction is so open and so wide that it is hard to determine when a man is entirely outside its bounds.

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What probabilities determine the assent.—But yet there is some end of it; and a man having carefully inquired into all the grounds of probability and unlikeliness, does his utmost to inform himself in all particulars fairly, and cast up the sum total on both sides, may in most cases come to acknowledge, upon the whole matter, on which side the probability rests; wherein some proofs in matter of reason, being suppositions upon universal experience, are so cogent and clear, and some testimonies in matter of fact so universal, that he cannot refuse his assent.

So that, I think, we may conclude, that in propositions, where, though the proofs in view are of most moment, yet there are sufficient grounds to suspect that there is either fallacy in words, or certain proofs as considerable to be produced on the contrary side; their assent, suspense, or dissent, are often voluntary actions: but where the proofs are such as make it highly probable, and there is not sufficient ground to suspect that there is either fallacy of words (which sober and serious consideration may discover) nor equally valid proofs, yet undiscovered latent on the other side (which also the nature of the thing may, in some cases, make plain to a considerate man); there, I think, a man who has weighed them, can scarce refuse his assent to the side on which the greater probability appears.

Whether it be probable that a promiscuous jumble of printing letters should often fall into a method and order, which should stamp on paper a coherent discourse; or that a blind fortuitous concourse of atoms, not guided by an understanding agent, should frequently constitute the bodies of any species of animals: in these, and the like cases, I think nobody that considers them can be one jot at a stand which side to take, nor at all waver in his assent. Lastly, when there can be no supposition (the thing in its own nature indifferent, and wholly depending upon the testimony of witnesses) that there is as fair testimony against as for the matter of fact attested; which by inquiry is to be learned, v.

g. whether there was one thousand seven hundred years ago such a man at Rome as Julius Cæsar: in all such cases, I say, I think it is not in

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What probabilities determine the assent.—Still, this refuge does have some limit. Suppose a man has carefully inquired into all the grounds of probability and unlikelihood, done his utmost to inform himself fairly about all the particulars, and added up the sum total on both sides. In most cases he may come to acknowledge, on the whole, on which side the probability lies. In such cases some proofs in matters of reason, being suppositions based on universal experience, are so compelling and clear, and some testimonies in matters of fact are so universal, that he cannot refuse his assent.

So I think we may conclude as follows. Take propositions in which the proofs in view carry the most weight, but there are still sufficient grounds to suspect either a fallacy in the words or proofs just as considerable that could be produced on the other side. In such propositions, men's assent, suspension, or dissent is often a voluntary action. But take cases where the proofs make the proposition highly probable, and there is no sufficient ground to suspect a fallacy of words (which sober and serious consideration may discover). Nor is there ground to suspect equally valid proofs still undiscovered and hidden on the other side (which the nature of the thing may also, in some cases, make plain to a thoughtful man). There, I think, a man who has weighed the proofs can hardly refuse his assent to the side on which the greater probability appears.

Is it probable that a random jumble of printing letters should often fall into a method and order that would stamp a coherent discourse on paper? Or that a blind, chance concourse of atoms, not guided by an understanding agent, should frequently form the bodies of any species of animals? In these and similar cases, I think nobody who considers them can be at all at a loss which side to take, or waver at all in his assent. Lastly, there are cases where the thing is in its own nature indifferent and depends wholly on the testimony of witnesses, and where there can be no supposition that the testimony against the attested matter of fact is as good as the testimony for it. Such a matter of fact is to be learned by inquiry, as, for example,

whether there was such a man at Rome as Julius Caesar seventeen hundred years ago. In all such cases, I say, I think it is not in any rational man's

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any rational man's power to refuse his assent; but that it necessarily follows, and closes with such probabilities. In other less clear cases, I think it is in a man's power to suspend his assent: and perhaps content himself with the proofs he has, if they favour the opinion that suits with his inclination or interest, and so stop from farther search.

But that a man should afford his assent to that side on which the less probability appears to him seems to me utterly impracticable, and as impossible as it is to believe the same thing probable and improbable at the same time.

4.20.16 *Where it is in our power to suspend it.*—As knowledge is no more arbitrary than perception; so, I think, assent is no more in our power than knowledge. When the agreement of any two ideas appears to our minds, whether immediately, or by the assistance of reason, I can no more refuse to perceive, no more avoid knowing it, than I can avoid seeing those objects which I turn my eyes to, and look on in daylight; and what upon full examination I find the most probable, I cannot deny my assent to.

But though we cannot hinder our knowledge, where the agreement is once perceived, nor our assent, where the probability manifestly appears upon due consideration of all the measures of it; yet we can hinder both knowledge and assent, by stopping our inquiry, and not employing our faculties in the search of any truth. If it were not so, ignorance, error, or infidelity could not in any case be a fault. Thus in some cases we can prevent or suspend our assent: but can a man, versed in modern or ancient history, doubt whether there is such a place as Rome, or whether there was such a man as Julius Cæsar?

Indeed, there are millions of truths, that a man is not, or may not think himself concerned to know; as whether our king Richard the Third was crooked, or no; or whether Roger Bacon was a mathematician, or a magician. In these and such like cases, where the assent one way or other is of no importance to the interest of any one; no action, no concernment of his, following or depending thereon; there it is not strange that the mind should give itself up to the common opinion, or render itself to the first comer. These and the like opinions are of so little weight and

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power to refuse his assent. His assent necessarily follows such probabilities and settles on them. In other, less clear cases, I think it is in a man's power to suspend his assent. He may perhaps content himself with the proofs he has, if they favor the opinion that suits his inclination or interest, and so stop searching further.

But that a man should give his assent to the side on which the lesser probability appears to him seems to me utterly impracticable. It is as impossible as believing the same thing probable and improbable at the same time.

Where it is in our power to suspend it.—Just as knowledge is no more arbitrary than perception, so, I think, assent is no more in our power than knowledge. When the agreement of any two ideas appears to our minds, whether immediately or with the help of reason, I can no more refuse to perceive it, and no more avoid knowing it, than I can avoid seeing the objects I turn my eyes to and look at in daylight. And I cannot deny my assent to what I find most probable on full examination.

Once the agreement is perceived, we cannot prevent our knowledge. When the probability plainly appears on due consideration of all its measures, we cannot prevent our assent. But we can still prevent both knowledge and assent by stopping our inquiry and not employing our faculties in the search for any truth. If it were not so, ignorance, error, or unbelief could never be a fault. So in some cases we can prevent or suspend our assent. But can a man versed in modern or ancient history doubt whether there is such a place as Rome, or whether there was such a man as Julius Caesar?

Indeed, there are millions of truths that a man is not concerned to know, or may not think himself concerned to know: for example, whether our King Richard the Third was hunchbacked or not, or whether Roger Bacon was a mathematician or a magician. In these and similar cases, assent one way or the other matters to nobody's interest, and no action or concern of his follows from it or depends on it. There it is not strange that the mind should give itself up to the common opinion, or surrender to the first comer. These and similar opinions are of so little weight and importance

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moment, that, like motes in the sun, their tendencies are very rarely taken notice of.

They are there, as it were, by chance, and the mind lets them float at liberty. But where the mind judges that the proposition has concernment in it; where the assent or not assenting is thought to draw consequences of moment after it, and good and evil to depend on choosing or refusing the right side; and the mind sets itself seriously to inquire and examine the probability; there, I think, it is not in our choice to take which side we please, if manifest odds appear on either.

The greater probability, I think, in that case will determine the assent and a man can no more avoid assenting, or taking it to be true, where he perceives the greater probability, than he can avoid knowing it to be true, where he perceives the agreement or disagreement of any two ideas.

If this be so, the foundation of error will lie in wrong measures of probability; as the foundation of vice in wrong measures of good.

4.20.17 4. *Authority.*—Fourthly, The fourth and last wrong measure of probability I shall take notice of, and which keeps in ignorance or error more people than all the other together, is that which I mentioned in the foregoing chapter; I mean, the giving up our assent to the common received opinions, either of our friends or party, neighbourhood or country. How many men have no other ground for their tenets than the supposed honesty, or learning, or number, of those of the same profession! As if honest or bookish men could not err, or truth were to be established by the vote of the multitude; yet this, with most men, serves the turn.

The tenet has had the attestation of reverend antiquity, it comes to me with the passport of former ages, and therefore I am secure in the reception I give it: other men have been and are of the same opinion (for that is all is said), and therefore it is reasonable for me to embrace it. A man may more justifiably throw up cross and pile for his opinions, than take them up by such measures. All men are liable to error, and most

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that, like motes in a sunbeam, their tendencies are very rarely noticed.[23]

They are there by chance, as it were, and the mind lets them float freely. But sometimes the mind judges that the proposition matters. It thinks that assenting or not assenting will bring important consequences after it, and that good and evil depend on choosing or refusing the right side, and it sets itself seriously to inquire into and examine the probability. There, I think, it is not our choice to take whichever side we please, if clear odds appear on either side.

In that case, I think, the greater probability will determine the assent. Where a man perceives the greater probability, he can no more avoid assenting, or taking the thing to be true, than he can avoid knowing it to be true where he perceives the agreement or disagreement of any two ideas.

If this is so, the foundation of error will lie in wrong measures of probability, just as the foundation of vice lies in wrong measures of good.

4. *Authority.*—Fourthly, the fourth and last wrong measure of probability I shall notice is the one I mentioned in the previous chapter. It keeps more people in ignorance or error than all the others together. I mean giving up our assent to the commonly received opinions of our friends or party, our neighborhood or country. How many men have no other ground for their tenets than the supposed honesty, learning, or number of those who profess the same! As if honest or bookish men could not err, or truth were to be established by the vote of the multitude. Yet for most men this does the job.

The tenet has had the attestation of reverend antiquity; it comes to me with the passport of former ages; and therefore I am safe in receiving it. Other men have been and are of the same opinion (for that is all that is said), and therefore it is reasonable for me to embrace it. A man could more justifiably toss a coin for his opinions than adopt them by such measures. All men are liable to error, and on many points most men are tempted to it by passion or interest.

23 Richard III, King of England 1483–85, was traditionally portrayed as a hunchback. Roger Bacon (c. 1220–c. 1292), the Franciscan philosopher, was popularly remembered as a magician.

men are in many points, by passion, or interest under temptation to it.

If we could but see the secret motives that influenced the men of name and learning in the world, and the leaders of parties, we should not always find that it was the embracing of truth for its own sake that made them espouse the doctrines they owned and maintained. This at least is certain, there is not an opinion so absurd, which a man may not receive upon this ground. There is no error to be named, which has not had its professors: and a man shall never want crooked paths to walk in, if he thinks that he is in the right way, wherever he has the footsteps of others to follow.

If we could only see the secret motives that influenced the men of name and learning in the world, and the leaders of parties, we would not always find that embracing truth for its own sake was what made them adopt the doctrines they professed and maintained. This at least is certain: there is no opinion so absurd that a man may not accept it on this ground. There is no error one could name that has not had its adherents. A man will never lack crooked paths to walk in if he thinks he is on the right road wherever he has the footsteps of others to follow.

4.20.18 *Men not in so many errors as imagined.*—But notwithstanding the great noise made in the world about errors and opinions, I must do mankind that right as to say there are not so many men in errors and wrong opinions as is commonly supposed. Not that I think they embrace the truth; but, indeed, because concerning those doctrines they keep such a stir about, they have no thought, no opinion at all.

For if any one should a little catechise the greatest part of the partizans of most of the sects in the world, he would not find, concerning those matters they are so zealous for, that they have any opinions of their own: much less would he have reason to think, that they took them upon the examination of arguments, and appearance of probability. They are resolved to stick to a party, that education or interest has engaged them in; and there, like the common soldiers of an army, show their courage and warmth as their leaders direct, without ever examining, or so much as knowing the cause they contend for.

If a man's life shows that he has no serious regard for religion, for what reason should we think that he beats his head about the opinions of his church, and troubles himself to examine the grounds of this or that doctrine? It is enough for him to obey his leaders, to have his hand and his tongue ready for the support of the common cause, and thereby approve himself to those who can give him credit, preferment, or protection in that society.

Thus men become professors of, and combatants for, those opinions they were never convinced of,

Men not in so many errors as imagined.—But in spite of all the noise made in the world about errors and opinions, I must do mankind the justice of saying that not as many men hold errors and wrong opinions as is commonly supposed. It is not that I think they embrace the truth. It is that, concerning the doctrines they make such a fuss about, they have no thought and no opinion at all.

For suppose someone questioned a little the greater part of the partisans of most of the sects in the world. He would not find that they have any opinions of their own on the matters they are so zealous about. Much less would he have reason to think that they adopted those opinions after examining arguments and the appearance of probability. They are resolved to stick to a party that education or interest has enlisted them in. There, like the common soldiers of an army, they show their courage and ardor as their leaders direct, without ever examining, or even knowing, the cause they are fighting for.

If a man’s life shows that he has no serious regard for religion, what reason do we have to think that he racks his brains over the opinions of his church, and takes the trouble to examine the grounds of this or that doctrine? It is enough for him to obey his leaders and to have his hand and his tongue ready to support the common cause. In this way he recommends himself to those who can give him standing, promotion, or protection in that society.

Thus men come to profess and fight for opinions they were never convinced of or converted to.

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	nor proselytes to; no, nor ever had so much as floating in their heads: and though one cannot say, there are fewer improbable or erroneous opinions in the world than there are; yet it is certain, there are fewer that actually assent to them, and mistake them for truth, than is imagined.	Some of these opinions never so much as floated through their heads. One cannot say that there are fewer improbable or erroneous opinions in the world than there are. But it is certain that fewer people actually assent to them, and mistake them for truth, than is imagined.

THE DIVISION OF THE SCIENCES

Knowledge divides into natural philosophy, ethics, and the doctrine of signs.

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4.21.1	*Three sorts.*—All that can fall within the compass of human understanding being either, first, the nature of things, as they are in themselves, their relations, and their manner of operation: or, secondly, that which man himself ought to do, as a rational and voluntary agent, for the attainment of any end, especially happiness: or, thirdly, the ways and means whereby the knowledge of both the one and the other of these is attained and communicated: I think science may be divided properly into these three sorts.	*Three sorts.*—Everything that can fall within the compass of human understanding is one of three things. First, it may be the nature of things as they are in themselves, their relations, and their manner of operation. Second, it may be what man himself ought to do, as a rational and voluntary agent, to attain any end, especially happiness. Third, it may be the ways and means by which the knowledge of both of these is attained and communicated. So I think science may properly be divided into these three sorts.[24]
4.21.2	1. *Physica.*—First, the knowledge of things, as they are in their own proper beings, their constitution, properties, and operations; whereby I mean not only matter and body, but spirits also, which have their proper natures, constitutions, and operations, as well as bodies. This, in a little more enlarged sense of the word, I call Φυσική, or natural philosophy. The end of this is bare speculative truth; and whatsoever can afford the mind of man any such, falls under this branch, whether it be God himself, angels, spirits, bodies, or any of their affections, as number and figure, etc.	1. *Physica.*—First, the knowledge of things as they are in their own proper being, their constitution, properties, and operations. By this I mean not only matter and body but also spirits, which have their own proper natures, constitutions, and operations just as bodies do. This, in a somewhat enlarged sense of the word, I call Φυσική, or natural philosophy. Its end is bare speculative truth. Whatever can afford the mind of man any such truth falls under this branch, whether it is God himself, angels, spirits, bodies, or any of their attributes, such as number and figure, etc.
4.21.3	2. *Practica.*—Secondly, Πρακτική, the skill of right applying our own powers and actions for the attainment of things good and useful. The most considerable under this head is ethics, which is the seeking out those rules and measures of human actions which lead to happiness, and the means to practise them. The end of this is not bare speculation, and the knowledge of truth; but right, and a conduct suitable to it.	2. *Practica.*—Secondly, Πρακτική, the skill of rightly applying our own powers and actions to attain things that are good and useful. The most important study under this head is ethics. Ethics seeks out those rules and measures of human actions that lead to happiness, and the means of practicing them. Its end is not bare speculation and the knowledge of truth, but right, and conduct suited to it.
4.21.4	3. Σημιωτική.—Thirdly, the third branch may be called Σημιωτική, or the doctrine of signs, the	3. Σημιωτική.—Thirdly, the third branch may be called Σημιωτική, or the doctrine of signs. Since

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most usual whereof being words, it is aptly enough termed also Λογική, logic; the business whereof is to consider the nature of signs the mind makes use of for the understanding of things, or conveying its knowledge to others. For since the things the mind contemplates are none of them, besides itself, present to the understanding, it is necessary that something else, as a sign or representation of the thing it considers, should be present to it: and these are ideas.

And because the scene of ideas that makes one man's thoughts, cannot be laid open to the immediate view of another, nor laid up any where but in the memory, a no very sure repository; therefore to communicate our thoughts to one another, as well as record them for our own use, signs of our ideas are also necessary. Those which men have found most convenient, and therefore generally make use of, are articulate sounds. The consideration then of ideas and words, as the great instruments of knowledge, makes no despicable part of their contemplation who would take a view of human knowledge in the whole extent of it.

And perhaps if it were distinctly weighed, and duly considered, they would afford us another sort of logic and critic than what we have been hitherto acquainted with.

4.21.5 *This is the first division of the objects of knowledge.*— This seems to me the first and most general, as well as natural division of the objects of our understanding. For a man can employ his thoughts about nothing, but either the contemplation of things themselves for the discovery of truth; or about the things in his power, which are his own actions, for the attainment of his own ends; or the signs the mind makes use of both in the one and the other, and the right ordering of them for its clearer information: All which three, viz.

things as they are in themselves knowable; actions as they depend on us, in order to happiness; and the right use of signs, in order to knowledge, being *toto cælo* different, they seemed to me to be the three great provinces of the

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the most usual signs are words, it is also aptly enough called Λογική, logic. Its business is to consider the nature of the signs the mind makes use of for understanding things, or for conveying its knowledge to others. Nothing the mind contemplates, apart from the mind itself, is present to the understanding. So something else must be present to it as a sign or representation of the thing it considers; and these are ideas.[25]

The scene of ideas that makes up one man's thoughts cannot be laid open to the direct view of another. Nor can it be stored anywhere but in the memory, which is not a very reliable repository. So signs of our ideas are also necessary, in order to communicate our thoughts to one another and to record them for our own use. The signs men have found most convenient, and therefore generally use, are articulate sounds. Anyone who would take a view of human knowledge in its whole extent must therefore consider ideas and words as the great instruments of knowledge. This is no contemptible part of that study.

And perhaps, if they were distinctly weighed and duly considered, they would give us a different sort of logic and criticism from the one we have known so far.

This is the first division of the objects of knowledge.— This seems to me the first and most general, as well as the most natural, division of the objects of our understanding. For a man can employ his thoughts on only three things. He can contemplate things themselves, to discover truth. He can think about the things in his power, which are his own actions, to attain his own ends. Or he can think about the signs the mind makes use of in both the one and the other, and the right ordering of them for its clearer information. All three of these, namely,

things as they are knowable in themselves, actions as they depend on us for the sake of happiness, and the right use of signs for the sake of knowledge, are *toto caelo* different. So they seemed to

24 "Science" here means organized knowledge in general, not only natural science.
25 The Greek names are physikē (natural philosophy), praktikē (practice), sēmeiōtikē (the doctrine of signs, the source of the later word "semiotics") and logikē (logic).

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intellectual world, wholly separate and distinct one from another.	me to be the three great provinces of the intellectual world, wholly separate and distinct from one another.[26]

26 *Toto caelo*: Latin, "by the whole extent of the sky," that is, utterly.