# Categories

ARISTOTLE

384–322 BC

# Categories

## Κατηγορίαι

*Translated from the Greek with AI (Claude) and edited*



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# INTRODUCTION

The *Categories* is a short treatise on the most basic kinds of things there are, and on how we speak about them. It has stood at the head of Aristotle's works on logic since antiquity, and for two thousand years it was the first book of philosophy that students read.

Aristotle sorts everything that is said "without combination" into ten highest kinds: substance, quantity, quality, relation, place, time, position, having, acting and being acted on. His favorite examples are homely ones—a particular man, a particular horse, "white", "in the Lyceum", "yesterday". At the base of it all stands substance, and above all the individual thing, "this man" or "this horse", which is neither said of anything else nor present in anything else; everything else is either said of such things or present in them.

The last chapters, on opposites, priority, simultaneity, change and the senses of "having", were long read as an appendix, and some scholars have doubted they belong to the work. The vocabulary coined here—substance and accident, genus and species, the categories themselves—became the common language of medieval and modern philosophy.

# Categories

*Aristotle sorts what there is into ten kinds, with individual substance at the foundation.*

## CHAPTER 1

1a Things are called homonymous when only the name is common to them, but the definition (account) of the being that corresponds to the name is different. For example, both a man and a picture are "animals." These have only the name in common, while the definition of the being that corresponds to the name is different. If someone is to say what being an animal is for each of them, he will give a distinctive definition for each. Things are called synonymous when both the name is common to them and the definition of the being that corresponds to the name is the same. For example, both a man and an ox are animals. A man and an ox are each called by a common name, "animal," and the definition of the being is also the same. If someone gives the definition of each, saying what being an animal is for each of them, he will give the same definition.[1] Things are called paronymous when they get their name from something else, with a difference in ending. For example, the grammarian gets his name from grammar, and the courageous man from courage.[2]

1 The Greek *zōon* means both "animal" and "picture" (a painted figure), hence the example. Homonymous and synonymous things are what the later tradition calls things named "equivocally" and "univocally."

2 Paronymous things are those traditionally said to be named "derivatively."

### THINGS SAID AND THINGS THAT ARE

*Aristotle separates expressions in combination from those without, and sorts beings by being said of or in a subject.*

Of things that are said, some are said in combination, others without combination. Those in combination are like "man runs" and "man wins"; those without combination are like "man," "ox," "runs," "wins."

Of the things there are, some are said of a subject but are not in any subject. For example, man is said of a subject, the individual man, but is not in any subject. Some are in a subject but are not said of any subject. (By "in a subject" I mean what is in something, not as a part, and cannot exist separately from what it is in.) For example, the individual grammar is in a subject, the soul, but is not said of any subject; and the individual white is in a subject, the body (for all color is in a body), but is not said of any subject. Some are both said of a subject [1b] and in a subject. For example, knowledge is in a subject, the soul, and is said of a subject, grammar. Some are neither in a subject nor said of a subject, for example the individual man or the individual horse. Nothing of this sort is either in a subject or said of a subject. Things that are individual and one in number are, without exception, not said of any subject. But nothing prevents some of them from being in a subject: the individual grammar is one of the things in a subject, yet it is not said of any subject.

### PREDICATION AND DIFFERENTIAE

*What is said of a predicate is said of its subject; genera not ranked together have different differentiae.*

When one thing is predicated of another as of a subject, everything said of what is predicated will also be said of the subject. For example, man is predicated of the individual man, and animal of man. So animal will also be predicated of the individual man, since the individual man is both a man and an animal.

Where genera are different and not ranked one under the other, their differentiae are also different in species. Take animal and knowledge. Footed, two-footed, winged and aquatic are differentiae of animal, but none of these is a differentia of knowledge: one knowledge does not differ from another by being two-footed. But where genera are ranked one under the other, nothing prevents their differentiae from being the same. The higher genera are predicated of those under them, so that all the differentiae of what is predicated will be differentiae of the subject as well.

## THE TEN CATEGORIES

*Everything said without combination signifies substance, quantity, quality, relative, where, when, position, having, acting or being acted on.*

Of things said without any combination, each signifies either substance or quantity or quality or a relative or where or when or being in a position or having or acting or being acted on. To give a rough idea: substance is, for example, man, horse; quantity, for example, two cubits long, three cubits long; quality, for example, white, grammatical; a relative, [2a] for example, double, half, greater; where, for example, in the Lyceum, in the marketplace; when, for example, yesterday, last year; being in a position, for example, is lying down, is sitting; having, for example, has shoes on, is armed; acting, for example, cuts, burns; being acted on, for example, is cut, is burned. None of the things mentioned is said, itself by itself, in any affirmation or denial. It is by the combination of these with one another that an affirmation or denial comes about.[3] For every affirmation and denial, it seems, is either true or false, whereas none of the things said without any combination is either true or false: for example, "man," "white," "runs," "wins."

3 The Lyceum was a gymnasium just outside Athens, where Aristotle taught.

## SUBSTANCE

*Primary substance is the individual; species and genera are secondary substances, and everything else depends on primary substances.*

Substance, in the most proper, primary and fullest sense of the word, is that which is neither said of a subject nor in a subject, for example the individual man or the individual horse. Secondary substances are the species in which the things primarily called substances belong, and also the genera of these species. For example, the individual man belongs in a species, man, and the genus of the species is animal. So these are called secondary substances, for example man and animal. It is clear from what has been said that, for things said of a subject, both the name and the definition must be predicated of the subject. For example, man is said of a subject, the individual man, and the name is indeed predicated: you will predicate man of the individual man. The definition of man will also be predicated of the individual man, since the individual man is both a man and an animal. So both the name and the definition will be predicated of the subject. But with things that are in a subject, in most cases neither the name nor the definition is predicated of the subject. In some cases nothing prevents the name from sometimes being predicated of the subject, but the definition cannot be. For example, white, which is in a subject, the body, is predicated of the subject (a body is called white), but the definition of white will never be predicated of a body. All the other things are either said of the primary substances as subjects or are in them as subjects. This is clear from particular cases taken up one by one. For example, animal is predicated of man, so it will also be predicated of the individual man; for if it were predicated of none [2b] of the individual men, it would not be predicated of man at all. Again, color is in body, so it is also in an individual body; for if it were not in some one of the particular bodies, it would not be in body at all. So all the other things are either said of the primary substances as subjects or are in them as subjects.

Therefore, if the primary substances did not exist, it would be impossible for any of the other things to exist.

Of the secondary substances, the species is more a substance than the genus, since it is nearer to the primary substance. If someone is to say what the primary substance is, he will give a more informative and more appropriate answer by giving the species than by giving the genus. For example, in saying what the individual man is, he would be more informative in saying "man" than in saying "animal," since the first is more distinctive of the individual man and the second more general. And in saying what the individual tree is, he will be more informative in saying "tree" than in saying "plant." Further, the primary substances are called substances most of all because they underlie all the other things, and all the other things are predicated of them or are in them. And just as the primary substances stand to all the other things, so the species stands to the genus. The species underlies the genus: the genera are predicated of the species, but the species do not reciprocate by being predicated of the genera. So on these grounds too the species is more a substance than the genus. But among species themselves, the ones that are not genera, no one is more a substance than another. You will not give a more appropriate answer about the individual man by saying "man" than about the individual horse by saying "horse." In the same way, among the primary substances no one is more a substance than another: the individual man is no more a substance than the individual ox.

It is reasonable that, after the primary substances, the species and genera alone of all the other things should be called secondary substances, since of all the things predicated they alone reveal the primary substance. If someone is to say what the individual man is, he will answer appropriately by giving the species or the genus, and he will make it more informative by giving "man" than "animal." But whatever else he gives, his answer will be foreign to the question, for example if he says "white" or "runs" or anything else of that kind. So it is reasonable that these alone of the other things should be called substances. Fur-

ther, it is because the primary substances underlie all the other things that they are called substances [3a] in the most proper sense. And just as the primary substances stand to all the other things, so the species and genera of the primary substances stand to all the rest, for all the rest are predicated of them. You will call the individual man grammatical, and so you will also call both man and animal grammatical. And it is the same with the other cases.

It is common to every substance not to be in a subject. The primary substance is neither in a subject nor said of a subject. As for the secondary substances, it is obvious in the following way too that they are not in a subject. Man is said of the individual man as subject, but is not in a subject: man is not in the individual man. Likewise animal is said of the individual man as subject, but animal is not in the individual man. Further, with things that are in a subject, nothing prevents the name from sometimes being predicated of the subject, but the definition cannot be. But with the secondary substances, both the definition and the name are predicated of the subject: you will predicate the definition of man of the individual man, and likewise the definition of animal. So substance could not be one of the things in a subject. This is not distinctive of substance, however; the differentia too is one of the things not in a subject. Footed and two-footed are said of man as subject but are not in a subject: two-footed or footed is not in man. And the definition of the differentia is predicated of whatever the differentia is said of. For example, if footed is said of man, the definition of footed will also be predicated of man, since man is footed. We need not be troubled by the parts of substances, as though they were in their wholes as subjects, and worry that we might be forced to say that they are not substances. When we spoke of things in a subject, we did not mean things that belong to something as parts.

It is a feature of substances and of differentiae that everything called after them is called synonymously. All the predications from them are predicated either of the individuals or of the species. From the primary substance there is no pre-

dication, since it is said of no subject. Of the secondary substances, the species is predicated of the individual, and the genus both of the species and of the individual. 3b Likewise the differentiae are predicated both of the species and of the individuals. And the primary substances admit the definition of their species and of their genera, and the species admits the definition of its genus; for everything said of what is predicated will also be said of the subject. Likewise the species and the individuals admit the definition of the differentiae.[4] Synonymous things, as we said, were those that have both the name in common and the same definition. So everything called after substances and after differentiae is called synonymously.

Every substance seems to signify a "this." With the primary substances it is indisputable and true that they signify a "this," since what they reveal is individual and one in number. With the secondary substances, when someone says "man" or "animal," it looks from the shape of the name as though they signify a "this" in the same way. But that is not true. Rather, each signifies something qualified, since the subject is not one, as the primary substance is: man and animal are said of many things. Yet it does not simply signify something qualified, as white does. White signifies nothing but something qualified, whereas the species and the genus mark off the qualified with regard to substance: they signify a substance qualified in a certain way.[5] But the genus marks off more widely than the species: someone who says "animal" takes in more than someone who says "man."

### THE MARKS OF SUBSTANCE

*Substance has no contrary and admits no more and less, but one and the same substance can receive contraries.*

It also belongs to substances that nothing is contrary to them. What would be contrary to a primary substance, for example to

4 "Predication" translates *katēgoria*, the word that gives the *Categories* its name; as a technical term it is rendered "category."

5 A "this" is a definite individual, something that can be pointed out.

the individual man or the individual animal? Nothing is contrary to it. Nor is anything contrary to man or to animal. This is not distinctive of substance, however; it holds of many other things too, for example of quantity. Nothing is contrary to two cubits long or three cubits long, nor to ten, nor to anything of that kind, unless someone were to say that much is contrary to little, or large to small. But of definite quantities none is contrary to any other.

Substance seems not to admit of a more and a less. I do not mean that one substance is not more a substance, or less a substance, than another (we have said that it is), but that no substance is called more or less just what it is. For example, if this substance is a man, it will not be more or less a man, either than itself or than another man. One man is not more a man than another, in the way that [4a] one white thing is more or less white than another, and one beautiful thing is called more or less beautiful than another. A thing is also called more or less than itself: for example, a body that is white is said to be whiter now than before, and one that is hot is called more or less hot. But substance is not called more or less. A man is not called more a man now than before, nor is any of the other things that are substances. So substance would not admit of a more and a less.

What seems most distinctive of substance is that, while remaining one and the same in number, it is able to receive contraries. Among the other things, the ones that are not substances, no one could produce anything that, being one in number, is able to receive contraries: for example, a color that is one and the same in number will not be white and black, nor will one and the same action, one in number, be base and worthy; and it is the same with the other things that are not substances. But substance, while remaining one and the same in number, is able to receive contraries. For example, the individual man, being one and the same, becomes pale at one time and dark at another, hot and cold, base and worthy. With none of the other things does this appear to be so, unless someone were to object by saying that a statement and a belief are able to receive con-

traries. For the same statement seems to be both true and false. If, for example, the statement that someone is sitting is true, then once he has stood up this same statement will be false. It is the same with belief: if someone truly believes that someone is sitting, then once that person has stood up he will believe falsely, while holding the same belief about him. But even if one were to accept this, there is still a difference in the way it happens. In the case of substances, the things are able to receive contraries by changing themselves. What has become cold from hot has changed (it has been altered), and so has what has become black from white, or worthy from base. Likewise with the others: each of them is able to receive contraries by itself undergoing change. But the statement and the belief themselves remain entirely unchanged in every way; it is because the actual thing changes that the contrary comes to hold of them. The statement that someone is sitting remains the same, but when the 4b actual thing has changed, the statement is called true at one time and false at another. It is the same with belief. So, in the way it happens at least, it would be distinctive of substance to be able to receive contraries by a change in itself. Yet even if someone were to accept this too, that a statement and a belief are able to receive contraries, it is not true. For a statement and a belief are said to be able to receive contraries not because they themselves receive anything, but because the affection has come about in something else. It is because the actual thing is so or is not so that the statement is said to be true or false, not because the statement itself is able to receive contraries. For, quite simply, neither a statement nor a belief is itself changed in any way by anything. So they would not be able to receive contraries, since no affection comes about in them. Substance, on the other hand, is said to be able to receive contraries because it itself receives the contraries: it receives sickness and health, whiteness and blackness, and it is by itself receiving each such thing that it is said to be able to receive contraries. So it would be distinctive of substance that, while being one and the same in

number, it is able to receive contraries by a change in itself. So much, then, for substance.

## QUANTITY

*Quantities are discrete or continuous, and their parts either have position relative to one another or do not.*

Of quantity, some is discrete and some continuous. Some consists of parts that have position in relation to one another, and some of parts that do not have position. Discrete quantities are, for example, number and speech; continuous ones are line, surface, body, and besides these, time and place. The parts of a number have no common boundary at which they join. For example, if five is a part of ten, the two fives do not join at any common boundary but are separate; nor do three and seven join at any common boundary. In general, you could not find a common boundary between the parts of a number: they are always separate. So number is one of the discrete quantities. Likewise speech is one of the discrete quantities. That speech is a quantity is obvious, since it is measured in short and long syllables. I mean speech that is spoken aloud. Its parts do not join at any common boundary: there is no common boundary at which the syllables join, but each is separate, itself by itself. [5a] A line, on the other hand, is continuous. You can find a common boundary at which its parts join, namely a point; and for a surface, a line, since the parts of a plane join at some common boundary. Likewise in the case of a body you could find a common boundary, a line or a surface, at which the parts of the body join. Time and place are also of this kind. Present time joins with past and future. Place, again, is one of the continuous quantities. The parts of a body occupy some place, and they join at some common boundary. So the parts of the place that each of the parts of the body occupies also join at the same boundary as the parts of the body do. So place too would be continuous, since its parts join at one common boundary.

Further, some quantities consist of parts that have position in relation to one another, and others of parts that do not have position. For example, the parts of a line have position in relation to one another: each of them lies somewhere, and you could distinguish and state where each lies in the plane and which of the other parts it joins. Likewise the parts of a plane have some position, since one could state in the same way where each lies and which parts join one another. The same goes for the parts of a solid and the parts of a place. But in the case of a number, one could not show that its parts have any position in relation to one another, or lie somewhere, or which of its parts join one another. Nor can one do so with the parts of time. None of the parts of time endures, and how could what does not endure have any position? You would rather say that they have a certain order, in that one part of time is prior and another posterior. It is the same with number, in that one is counted prior to two, and two prior to three. In this way number would have a certain order, but you would scarcely find position in it. Speech is the same: none of its parts endures, but once a part has been said it can no longer be caught, so its parts would have no position, given that none of them endures. So some quantities consist of parts that have position, and others of parts that do not.

Only the things mentioned are called quantities in the proper sense; all the others are so called accidentally. It is with an eye [5b] to these that we call the others quantities too. For example, there is said to be much white because the surface is large, an action is called long because the time taken is long, and a change, too, is called long. None of these is called a quantity in its own right. For example, if someone is to say how long an action is, he will define it by the time, saying that it lasts a year or something of the sort. And in saying how much white there is, he will define it by the surface: however large the surface is, that is how much he would say the white is. So only the things mentioned are called quantities properly and in their own right. None of the others is a quantity in its own right, but, if at all, accidentally.

Further, nothing is contrary to a quantity. In the case of definite quantities it is obvious that nothing is contrary, for example to two cubits long or three cubits long, or to a surface, or to anything of that kind. Nothing is contrary to them, unless someone were to say that much is contrary to little, or large to small. But none of these is a quantity; they are relatives. Nothing is called large or small itself by itself, but only by being referred to something else. For example, a mountain is called small and a millet seed large, because the seed is larger than others of its kind and the mountain smaller than others of its kind. So the reference is to something else; for if a thing were called small or large itself by itself, a mountain would never be called small or a millet seed large. Again, we say that there are many people in the village but few in Athens, though there are many times as many there; and that there are many in the house but few in the theater, though there are far more there. Further, two cubits long, three cubits long and everything of that kind signify a quantity, while large or small does not signify a quantity but rather a relative, since large and small are viewed in relation to something else. So it is obvious that these are relatives. Further, whether one counts them as quantities or not, nothing is contrary to them. How could anyone say that something is contrary to what cannot be taken itself by itself, but is referred to something else? Further, if large and small are to be contraries, it will turn out that the same thing admits contraries simultaneously, and that things are contrary to themselves. For it sometimes turns out that the same thing is simultaneously both large and small: it is small in relation to this thing, but this same thing is large in relation to another. So it turns out that the same thing is both large and small at the same time, and so admits contraries simultaneously. But nothing seems [6a] to admit contraries simultaneously. Take substance: it seems to be able to receive contraries, yet no one is sick and healthy at the same time. Nor is anything white and black at the same time. Nor is there anything else that admits contraries simultaneously. And it also turns out that things are contrary to themselves. For if large is contrary to

small, and the same thing is simultaneously large and small, it would be contrary to itself. But it is impossible for anything to be contrary to itself. So large is not contrary to small, nor much to little. So even if someone says that these are not relatives but quantities, they will have no contrary.

But it is in the case of place that there seems most of all to be a contrariety of quantity. For people treat up as contrary to down, calling the region toward the center "down," because the distance from the center to the limits of the world is greatest. And they seem to derive their definition of the other contraries from these as well, for they define as contraries the things within the same genus that are farthest apart from one another.

Quantity does not seem to admit of a more and a less. Take two cubits long: one thing is not more two cubits long than another. Nor with number: three is no more three than five is five, nor is five more five than three is three. Nor is one time called more a time than another. In general, none of the things mentioned is called more or less. So quantity does not admit of a more and a less either.

What is most distinctive of quantity is that it is called equal and unequal. Each of the quantities mentioned is called both equal and unequal. For example, a body is called both equal and unequal, and a time both equal and unequal. It is the same with each of the other things mentioned. But the remaining things, the ones that are not quantities, would hardly seem to be called equal and unequal. For example, a condition is hardly called equal or unequal, but rather similar; and white is hardly equal or unequal, but similar. So it would be most distinctive of quantity to be called equal and unequal.

## RELATIVES

*Relatives are things said to be what they are of something else, like double and half or slave and master.*

We call relatives all things that are said to be just what they are of other things, or in some other way in relation to something

else. For example, the greater is said to be just what it is of something else, since it is called greater than something; and the double is said to be just what it is of something else, 6b since it is called double of something. It is the same with all other such things. The following are also relatives: state, condition, perception, knowledge, position. All of these are said to be just what they are of other things, and not something else: a state is called a state of something, knowledge knowledge of something, a position the position of something, and so on with the rest. Relatives, then, are those things that are said to be just what they are of other things, or in some other way in relation to something else. For example, a mountain is called large in relation to something else, since the mountain is called large relative to something. The similar is called similar to something, and the other things of this kind are called relative in the same way. Further, lying, standing and sitting are particular positions, and position is a relative. But to be lying, to be standing or to be sitting are not themselves positions; they are called paronymously from the positions just mentioned.

There is also contrariety among relatives. For example, excellence is contrary to vice, each of them being a relative, and knowledge to ignorance. But not every relative has a contrary: nothing is contrary to double, nor to triple, nor to anything of that kind.

Relatives also seem to admit of a more and a less. Similar and dissimilar are called more and less, and equal and unequal are called more and less, each of them being a relative, since the similar is called similar to something and the dissimilar dissimilar to something. But not all relatives admit of a more and a less: double is not called more or less double, nor is anything of that kind.

### CORRELATIVES THAT RECIPROCATE

*Every relative reciprocates with its correlative, provided the correlative is named properly, even if a new name must be coined.*

All relatives are spoken of in relation to correlatives that reciprocate. For example, the slave is called slave of a master, and the master master of a slave; the double double of a half, and the half half of a double; the greater greater than a less, and the less less than a greater. It is the same with the others, except that the wording will sometimes differ in grammatical case. For example, knowledge is called knowledge of the knowable, and the knowable knowable by knowledge; perception perception of the perceptible, and the perceptible perceptible by perception. Sometimes, though, they will not seem to reciprocate, when what they are spoken of in relation to is not given appropriately and the person giving it makes a mistake. For example, if a wing is given as a wing of a bird, it does not reciprocate: a bird is not a bird of a wing. That is because it was not given appropriately in the [7a] first place, as wing of a bird. It is not insofar as it is a bird that the wing is said to be its wing, but insofar as it is winged, since many other things that are not birds have wings too. So if it is given appropriately, it does reciprocate: the wing is wing of the winged, and the winged is winged by a wing. Sometimes it may even be necessary to coin a name, if there is no established name in relation to which it could be given appropriately. For example, if a rudder is given as rudder of a boat, the way it is given is not appropriate. It is not insofar as it is a boat that the rudder is said to be its rudder, since there are boats that have no rudders. That is why it does not reciprocate: the boat is not called boat of a rudder. But perhaps it would be given more appropriately if it were put something like this: the rudder is rudder of the ruddered, or in some other such way, since there is no established name. And it does reciprocate if given appropriately: the ruddered is ruddered by a rudder. It is the same in other cases. For example, a head would be more appropriately

given as head of the headed than as head of an animal, since it is not insofar as it is an animal that a thing has a head: many animals have no head. This is perhaps the easiest way to find names where none are established: derive names from the original terms and apply them to the correlatives that reciprocate with them, as in the examples above, "winged" from "wing" and "ruddered" from "rudder." All relatives, then, provided they are given appropriately, are spoken of in relation to correlatives that reciprocate. If they are given in relation to some chance thing, and not to the very thing they are spoken of in relation to, they do not reciprocate. I mean that even among things admitted to be spoken of in relation to correlatives that reciprocate, and for which names are established, none reciprocates if it is given in relation to something accidental and not to the very thing it is spoken of in relation to. For example, if a slave is given as slave not of a master but of a man, or of a two-footed thing, or of anything of that kind, it does not reciprocate, since it has not been given appropriately. Further, if something has been given appropriately in relation to what it is spoken of in relation to, then when everything else that is accidental is stripped away and only the thing it was appropriately given in relation to is left, it will always be spoken of in relation to that. For example, if a slave is spoken of in relation to a master, then when everything accidental to the master is stripped away, such as being two-footed, being able to receive knowledge and being a man, and only being a master is left, the slave will always be spoken of in relation to it, since the slave is called slave of a master. [7b] But if it is not given appropriately in relation to whatever it is spoken of in relation to, then when the other things are stripped away and only the thing it was given in relation to is left, it will not be spoken of in relation to that. Let a slave be given as slave of a man, and a wing as wing of a bird, and let being a master be stripped away from the man. The slave will no longer be spoken of in relation to a man, for if there is no master, there is no slave either. In the same way, let being winged be stripped away from the bird. The wing will no longer be a relative, for if there is

nothing winged, the wing will not be the wing of anything either. So one must give each thing in relation to whatever it is appropriately spoken of in relation to. If a name is established, this is easy; if not, it may be necessary to coin one. When they are given in this way, it is obvious that all relatives are spoken of in relation to correlatives that reciprocate.

Relatives seem to be simultaneous by nature, and in most cases this is true. Double and half are simultaneous: when there is a half there is a double, when there is a master there is a slave, and when there is a slave there is a master; and the other cases are similar to these. These also do away with each other: if there is no double there is no half, and if there is no half there is no double; and it is the same with the other such cases. But it does not seem true of all relatives that they are simultaneous by nature. The knowable would seem to be prior to knowledge, since for the most part we acquire knowledge of things that already exist. In few cases, if any, would one see knowledge coming into being simultaneously with the knowable. Further, the knowable, when done away with, does away with knowledge along with it, but knowledge does not do away with the knowable along with it. If there is no knowable, there is no knowledge (there will be nothing for it to be knowledge of), but if there is no knowledge, nothing prevents there being a knowable. For example, the squaring of the circle, if indeed it is knowable: there is as yet no knowledge of it, but it is itself knowable. Further, if animal is done away with, there will be no knowledge, but many of the knowables may still exist. The case of perception is similar to these, since the perceptible seems to be prior to perception. The perceptible, when done away with, does away with perception along with it, but perception does not do away with the perceptible along with it.[6] Perceptions are concerned with body and are in body. If the perceptible is done away with, body [8a] is done away with too (since body is one of the perceptibles), and if there is no body, perception is done away with too.

6 Squaring the circle means constructing a square equal in area to a given circle, a famous unsolved problem of Greek geometry.

So the perceptible does away with perception along with it. But perception does not do away with the perceptible along with it. If animal is done away with, perception is done away with, but there will still be perceptibles, such as body, hot, sweet, bitter and all the other things that are perceptible. Further, perception comes into being simultaneously with what is able to perceive, since perception comes into being simultaneously with the animal. But the perceptible exists even before there is an animal or perception: fire and water and the like, from which the animal itself is composed, exist even before there is any animal at all, or perception. So the perceptible would seem to be prior to perception.

### CAN A SUBSTANCE BE RELATIVE?

*Aristotle asks whether heads and hands are relatives, and sharpens the definition so that no substance is.*

There is a problem as to whether no substance is spoken of as a relative, as is commonly thought, or whether this is possible with some secondary substances. With primary substances it is true, for neither wholes nor parts are spoken of in relation to something. The individual man is not called some individual man of something, nor is the individual ox called some individual ox of something. The same goes for parts. An individual hand is not called some individual hand of something but someone's hand, and an individual head is not called some individual head of something but someone's head. The same holds for secondary substances, at least for most of them. Man, for example, is not called man of something, nor ox ox of something, nor timber timber of something. It is called something's property. With things like these, then, it is evident that they are not relatives. With some secondary substances, though, there is room for dispute. For example, a head is called someone's head, a hand someone's hand, and so with each thing of this kind, so that these would seem to be relatives. If the definition of relatives has been adequately given, it is either very difficult or

impossible to show that no substance is spoken of as a relative. But if it has not been adequately given, and relatives are those things for which being is the same as being somehow related to something, then perhaps something could be said in reply. The earlier definition does apply to all relatives, but for them being relative is not the same as being said to be just what they are of other things. From this it is clear that if someone knows any relative definitely, he will also know definitely that in relation to which it is spoken of. This is evident from the cases themselves too. For if someone knows of this particular thing that it is a relative, and being, for relatives, is the same as [8b] being somehow related to something, he also knows that to which it is somehow related. For if he does not know at all that to which it is somehow related, he will not know whether it is somehow related to something either. The point is clear in particular cases as well. For example, if someone knows definitely of this particular thing that it is double, he also knows at once, definitely, what it is double of. For if he knows it to be double of nothing definite, he does not know whether it is double at all. Likewise, if he knows of this particular thing that it is more beautiful, it follows from this that he must also know at once, definitely, what it is more beautiful than. He will not know indefinitely that it is more beautiful than something worse, for that sort of thing is supposition, not knowledge. He will no longer know exactly that it is more beautiful than something worse, because, as it may turn out, there is nothing worse than it. So it is evident that if someone knows any relative definitely, he must also know definitely that in relation to which it is spoken of. But the head and the hand and each thing of that kind, which are substances, can be known definitely as to just what they are, while that in relation to which they are spoken of need not be. For whose this head is, or whose the hand, cannot be known definitely. So these would not be relatives. And if these are not relatives, it would be true to say that no substance is a relative. It is perhaps hard to make confident pronouncements on such matters without hav-

ing examined them many times. Still, to have gone through the difficulties about each of them is not useless.

## QUALITY

*Quality has several kinds: states and conditions, natural capacities, affective qualities and affections, and shape.*

By a quality I mean that in virtue of which things are said to be qualified somehow. Quality is one of the things spoken of in several ways. Let us call one species of quality, then, states and conditions. A state differs from a condition in being much more lasting and more stable. Such are the branches of knowledge and the excellences. Knowledge seems to be one of the things that are lasting and hard to shift, even if someone has acquired it only moderately, unless some great change comes about through illness or something else of the kind. So too excellence, such as justice or moderation or anything of the kind, does not seem easy to shift or easy to change. Conditions, on the other hand, are what we call things that are easily shifted and change quickly, for example heat and chill, illness and health, and so on. A man is in a certain condition with respect to these, but he changes quickly, becoming cold instead of hot and passing from being healthy to 9a being ill. The same holds for the others, unless one of these very conditions should happen, through length of time, to have already become part of a man's nature and incurable, or very hard to shift. Then one might perhaps call it a state by now. It is evident that people mean by states those things that are more lasting and harder to shift. For those who have no firm hold on their branches of knowledge, but are easily shifted, are not said to have a state, though they are in a certain condition, worse or better, with respect to knowledge. So a state differs from a condition in that a condition is easily shifted, while a state is more lasting and harder to shift. States are also conditions, but conditions are not necessarily states. Those who have states are also in a certain condition in virtue of them,

but those who are in a certain condition do not in every case have a state as well.

Another genus of quality is that in virtue of which we call people boxers or runners, healthy or sickly. In general, it covers whatever is spoken of in virtue of a natural capacity or incapacity. Each of these is called qualified not by being in a certain condition, but by having a natural capacity or incapacity to do something easily or to be unaffected. For example, people are called boxers or runners not by being in a certain condition, but by having a natural capacity to do something easily. They are called healthy by having a natural capacity not to be easily affected by whatever befalls them, and sickly by having a natural incapacity not to be easily affected by whatever befalls them. The hard and the soft are similar. The hard is so called by having a capacity not to be easily divided, the soft by having an incapacity for this same thing.

A third genus of quality is affective qualities and affections. Such are, for example, sweetness, bitterness and sourness and everything akin to them, as well as heat and coldness, whiteness and blackness. That these are qualities is evident, because the things that have received them are called qualified in virtue of them. Honey, for example, is called sweet by having received sweetness, and a body white by having received whiteness, and it is the same with the others. They are called affective qualities not because the things that have received the [9b] qualities have themselves been affected in some way. Honey is not called sweet because it has been affected in some way, and the same is true of everything else of that kind. Heat and coldness are similar. They are called affective qualities not because the things that have received them have been affected in some way. Each of the qualities mentioned is called an affective quality because it produces an affection in the senses. Sweetness produces an affection in taste, and heat in touch, and the others do likewise. Whiteness and blackness and the other colors, however, are not called affective qualities in the same way as those just mentioned. They are so called because they themselves have come about

from an affection. That many changes of color come about through an affection is plain. Someone who is ashamed turns red, someone who is frightened turns pale, and so on. So if someone is by nature subject to some such affection, arising from certain natural occurrences, it is to be expected that he will have the same color. For the very condition of the body that comes about now, in being ashamed, might also come about through one's natural constitution, so that the color too would be similar by nature. Such occurrences, then, as have taken their origin from certain affections that are hard to shift and lasting are called affective qualities. Pallor or darkness may have come about in one's natural constitution, and then it is called a quality, since we are called qualified in virtue of it. Or this same pallor or darkness may have resulted from a long illness or from scorching heat, and not easily go away, or even last for life. Then these too are called qualities, since we are likewise called qualified in virtue of them. But what comes about from things that are easily dissolved and quickly go away is called an affection, not a quality, because people are not called qualified in virtue of these. Someone who blushes because he is ashamed is not called ruddy, nor is someone who turns pale because he is frightened called pallid. Rather, he is said to have been affected in some way. So such things are called affections, not qualities. In a similar way, there are said to be affective qualities and affections in the case of the soul as well. Whatever has come about right from birth from certain affections that are hard to shift is called a quality. Examples are the derangement of madness [10a] and anger and the like, for people are called qualified in virtue of these, being called irascible and mad. So too with derangements that are not natural but have come about from certain other occurrences, and are hard to get rid of or even cannot be shifted at all. Such things too are qualities, for people are called qualified in virtue of them. But what comes about from things that quickly go away is called an affection. An example is someone who is more irascible when he is distressed. Someone who is more irascible while in such an affection is not called

irascible. Rather, he is said to have been affected in some way. So such things are called affections, not qualities.

A fourth genus of quality is shape and the form that belongs to each thing, together with straightness and curvedness and anything similar to these. In virtue of each of these a thing is called qualified somehow. A thing is called qualified somehow by being triangular or square, and by being straight or curved. And each thing is called qualified somehow in virtue of its form too. The rare and the dense, the rough and the smooth, might seem to signify a way of being qualified. But such things seem to be foreign to the division of quality, since each of them appears rather to indicate a certain position of the parts. A thing is dense because its parts are close to one another, and rare because they stand apart from one another. It is smooth because its parts lie in some sort of straight line, and rough because some parts stick up and others fall short.

Perhaps some other mode of quality might come to light as well, but the ones most commonly spoken of are roughly these.

These, then, are qualities. Qualified things are those called paronymously after them, or in some other way from them. In most cases, practically all, they are called paronymously. From whiteness, for example, a thing is called white, from grammar grammatical, from justice just, and likewise with the others. In some cases, though, no names are established for the qualities, and so things cannot be called paronymously after them. For example, the runner or the boxer, so called in virtue of a natural capacity, is not called paronymously after any quality. [10b] No names are established for the capacities in virtue of which these people are called qualified. It is otherwise with the branches of knowledge in virtue of which people are called boxers or wrestlers by condition. Boxing and wrestling are spoken of as branches of knowledge, and those in that condition are called qualified paronymously after them. Sometimes, even when a name is established, what is called qualified in virtue of the quality is not called paronymously. An example is the worthy man, so called from excellence. He is called worthy by having

excellence, but not paronymously from excellence. This does not happen in many cases, though. Qualified things, then, are those called paronymously after the qualities mentioned, or in some other way from them.

### FEATURES OF QUALITY

*Qualities admit contraries and a more and a less; what is distinctive of quality is likeness and unlikeness.*

There is contrariety in the case of quality too. Justice, for example, is contrary to injustice, whiteness to blackness, and so on. The things called qualified in virtue of them are contrary as well, the unjust to the just, and the white to the black. But this is not so in every case. Nothing is contrary to tawny or pale or such colors, though they are qualified. Further, if one of two contraries is qualified, the other will be qualified too. This is clear if one runs through the other categories. For example, if justice is contrary to injustice, and justice is a quality, then injustice is a quality too. None of the other categories will fit injustice, whether quantity or relative or where or anything of that sort at all. Only quality fits it. And the same holds for the other contraries in the case of quality.

Qualified things also admit of a more and a less. One thing is called more white or less white than another, and one thing more just than another. And the thing itself can increase in this respect, since something that is white can become whiter still. Not all do, however, but most. One might raise the question whether one justice is called more or less justice than another, and similarly with the other conditions. Some people dispute about such cases. They say that justice should not at all be called more or less justice than justice, nor health than health. But they say that one person has less health than another, and one person less justice than [11a] another, and likewise with grammar and the other conditions. At any rate, the things called qualified in virtue of these indisputably admit of a more and a less. One person is called more grammatical than another, healthier,

more just, and the same holds for the rest. But triangle and square do not seem to admit of the more, nor does any other shape. Things that admit the definition of the triangle or of the circle are all equally triangles or circles. Of things that do not admit it, none will be called more so than another. A square is no more a circle than an oblong is, since neither admits the definition of the circle. In short, unless both admit the definition of what is under discussion, one will not be called more so than the other. So not all qualified things admit of a more and a less.

None of the features mentioned, then, is distinctive of quality. But things are called like and unlike in virtue of qualities alone. One thing is not like another in virtue of anything except that in virtue of which it is qualified. So it would be distinctive of quality that things are called like and unlike in virtue of it.

We should not be troubled if someone says that, having set out to discuss quality, we are counting many relatives along with it, since we said that states and conditions are relatives. In practically all such cases the genera are spoken of in relation to something, but none of the particular ones is. Knowledge, which is a genus, is said to be just what it is of something else, since it is called knowledge of something. But none of the particular ones is said to be just what it is of something else. Grammar, for example, is not called grammar of something, nor music music of something. If at all, these too are spoken of as relatives in virtue of their genus. Grammar is called knowledge of something, not grammar of something, and music is called knowledge of something, not music of something. So the particular ones are not relatives. It is by the particular ones that we are called qualified, since these are the ones we have. We are called knowledgeable by having one of the particular branches of knowledge. So these would be qualities too, the particular ones in virtue of which we are sometimes called qualified, and these are not relatives. Further, if the same thing should happen to be both a relative and qualified, there is nothing absurd in counting it in both genera.

### ACTING, BEING ACTED ON, AND THE REST

*Acting and being acted on admit contraries and degrees; the remaining categories need no further discussion.*

11b Acting and being acted on also admit of contrariety and of a more and a less. Heating is contrary to cooling, being heated to being cooled, and being pleased to being pained, so they admit of contrariety. They also admit of a more and a less, for one can heat more and less, and be heated more and less. So acting and being acted on admit of a more and a less.

This much, then, is said about these. Being in a position was also discussed in the section on relatives, where it was said to be spoken of paronymously from positions. The rest, when, where and having, are obvious, so nothing more is said about them than what was said at the beginning. There we said that having signifies having shoes on or being armed, and that where signifies, for example, "in the Lyceum." The other things said about them there also stand.

### FOUR KINDS OF OPPOSITES

*Things are opposed as relatives, as contraries, as privation and possession, or as affirmation and denial.*

About the genera that were proposed, what has been said is enough. We must now speak about opposites, and about the number of ways in which things are customarily opposed. One thing is said to be opposed to another in four ways: as relatives, as contraries, as privation and possession, or as affirmation and denial. To put it in outline, each of these is opposed as follows. As relatives, for example, the double is opposed to the half. As contraries, the bad is opposed to the good. As privation and possession, blindness is opposed to sight. As affirmation and denial, "he is sitting" is opposed to "he is not sitting."

Things opposed as relatives are said to be just what they are of their opposites, or are related to them in some other way. The double, for example, is said to be just what it is, double, of some-

thing else, for it is double of something. Knowledge too is opposed to the knowable as relatives are, and knowledge is said to be just what it is of the knowable. The knowable too is said to be just what it is in relation to its opposite, knowledge, for the knowable is said to be knowable by something, namely by knowledge.

Things opposed as relatives, then, are said to be just what they are of other things, or are in some way or other spoken of in relation to one another. Things opposed as contraries, however, are in no way said to be just what they are in relation to one another, though they are called contraries of one another. The good is not called good of the bad, but its contrary. Nor is the white called white of the black, but its contrary. So these oppositions differ from one another. Some contraries are such [12a] that one or the other of them must belong to the things in which they naturally occur, or of which they are predicated, and these have nothing in between. But with those of which it is not necessary that one or the other belong, there is always something in between. For example, illness and health naturally occur in an animal's body, and one or the other must belong to an animal's body, either illness or health. Odd and even too are predicated of number, and one or the other must belong to a number, either odd or even. And there is nothing in between either pair, whether illness and health or odd and even. But with those of which it is not necessary that one or the other belong, there is something in between. Black and white, for example, naturally occur in body, but it is not necessary that one or the other of them belong to body, since not every body is either white or black. Base and worthy too are predicated both of man and of many other things, but it is not necessary that one or the other of them belong to the things they are predicated of. Not all things are either base or worthy. And there is something in between these. Between white and black there are, for example, gray and pale and all the other colors. Between base and worthy there is what is neither base nor worthy. In some cases names are established for the intermediates, as with gray and pale and

all the other colors between white and black. In others it is not easy to supply a name for the intermediate, and so it is defined by the denial of each of the extremes. Examples are "neither good nor bad" and "neither just nor unjust."

### PRIVATION AND POSSESSION

*Blindness and sight are neither relatives nor contraries, and change runs only from possession to privation.*

Privation and possession are spoken of in connection with the same thing. Sight and blindness, for example, are spoken of in connection with the eye. To put it universally, each of them is spoken of in connection with that in which the possession naturally occurs. Something capable of receiving a possession is said to be deprived of it when the possession is in no way present in that in which it naturally belongs, at the time when it is natural for the thing to have it. We do not call something toothless just because it has no teeth, or blind just because it has no sight. We use those words for what does not have them when it is natural for it to have them. Some things have neither sight nor teeth from birth, yet they are not called toothless or blind. Being deprived and having the possession are not privation and possession. Sight is a possession, and blindness a privation. But having sight is not sight, nor is being blind blindness. Blindness is a certain privation, whereas being blind is being deprived, not a privation. Further, if blindness were the same as being blind, both would be predicated of the same thing. But a man is called blind, while a man is in no way called [12b] blindness. Yet these too, being deprived and having the possession, seem to be opposed as privation and possession, since the mode of opposition is the same. As blindness is opposed to sight, so being blind is opposed to having sight.

Nor is what underlies an affirmation and a denial itself an affirmation and a denial. An affirmation is an affirmative statement and a denial a negative statement, whereas none of the things underlying affirmation and denial is a statement. Yet

these too are said to be opposed to one another as affirmation and denial, since with them too the mode of opposition is the same. An affirmation is opposed to a denial, as "he is sitting" is opposed to "he is not sitting." In just the same way the thing underlying each is opposed to the other, his sitting to his not sitting.

That privation and possession are not opposed as relatives is evident, since neither is said to be just what it is of its opposite. Sight is not sight of blindness, nor is it spoken of in relation to blindness in any other way. Likewise, blindness would not be called blindness of sight. It is called privation of sight, but it is not called blindness of sight. Further, all relatives are spoken of in relation to correlatives that reciprocate. So if blindness were a relative, that in relation to which it is spoken of would reciprocate with it. But it does not reciprocate, since sight is not called sight of blindness.

That things spoken of as privation and possession are not opposed as contraries either is clear from the following. With contraries that have nothing in between, one or the other must always belong to that in which they naturally occur, or of which they are predicated. For there was nothing in between in those cases where one or the other had to belong to what can receive them, as with illness and health, and odd and even. But where there is something in between, it is never necessary that one or the other belong to everything. It is not necessary that everything that can receive them be white or black, or hot or cold, because nothing prevents something in between from belonging. Further, as we saw, there was something in between in those cases where it was not necessary for one or the other to belong to what can receive them. The exception was things to which one of the pair belongs by nature, as being hot belongs to fire and being white to snow. In these cases one of the two must belong definitely, and not whichever it happens to be, since fire cannot be cold, nor snow black. So it is not necessary for one of them to belong to everything [13a] that can receive them. It belongs only to those things to which one of the pair belongs by

nature, and to these it is definitely one, and not whichever it happens to be. With privation and possession, neither of these accounts is true. It is not always necessary that one or the other belong to what can receive them. Something that is not yet at the point where it is natural for it to have sight is called neither blind nor having sight. So these would not be contraries of the kind that have nothing in between. But neither are they of the kind that have something in between, since at some point one or the other of them must belong to everything that can receive them. Once a thing has reached the point where it is natural for it to have sight, it will be called either blind or having sight. And it is not definitely one of these, but whichever it happens to be. It is not necessary for it to be blind, or for it to have sight, but it is whichever it happens to be. With contraries that have something in between, however, it was never necessary that one or the other belong to everything. It belonged only to some things, and to these definitely one of the pair. So it is clear that things opposed as privation and possession are not opposed as contraries in either of the two ways.

Further, with contraries, a change of each into the other is possible while the thing that receives them persists, unless one of the pair belongs to something by nature, as being hot belongs to fire. What is healthy can become ill, what is white black, and what is cold hot. It is also possible to become base from worthy and worthy from base. A base man who is led into better ways of spending his time and better discussions would make at least some small progress toward being better. And once he makes even a little progress, it is evident that he would either change completely or make a very great deal of progress. He keeps becoming more easily moved toward excellence, even if he made only the slightest progress at first, so that it is likely he will make still more progress. When this keeps happening, it brings him over completely to the contrary state, unless he is prevented by lack of time. With possession and privation, however, a change of each into the other is impossible. Change occurs from possession to privation, but from privation to pos-

session it is impossible. No one who has gone blind has ever seen again. No one who is bald has ever grown a full head of hair again, and no one who is toothless has ever grown teeth.

### AFFIRMATION AND DENIAL

*Only in affirmation and denial must one side always be true and the other false.*

As for things opposed as affirmation and denial, [13b] it is evident that they are not opposed in any of the ways mentioned. With these alone it is always necessary that one of them be true and the other false. With contraries it is not always necessary that one be true and the other false. The same is true of relatives, and of possession and privation. For example, health and illness are contraries, and neither of them is either true or false. Likewise the double and the half are opposed as relatives, and neither of them is either true or false. Nor is either of the things spoken of as privation and possession, such as sight and blindness. In general, nothing spoken of without any combination is either true or false, and all the things mentioned are spoken of without combination. Still, this would seem most likely to happen with contraries spoken of in combination. "Socrates is healthy," for instance, is contrary to "Socrates is ill." But not even with these is it always necessary that one be true and the other false. If Socrates exists, one will be true and the other false. But if he does not, both will be false, since neither "Socrates is ill" nor "Socrates is healthy" is true if Socrates himself does not exist at all.[7] With privation and possession, if he does not exist at all, neither is true. And if he does exist, it is not always the case that one is true and the other false. "Socrates has sight" is opposed to "Socrates is blind" as possession to privation. If he exists, it is not necessary that one of them be true and the other false, since both are false when he is not yet at the point where it is natural for him to have sight. And if Socrates does not exist at all, then

7 Socrates (469–399 BC), the Athenian philosopher, serves here simply as a stock example of an individual.

too both are false, both that he has sight and that he is blind. But with affirmation and denial, one will always be false and the other true, whether he exists or not. Take "Socrates is ill" and "Socrates is not ill." If he exists, it is evident that one of them is true and the other false, and likewise if he does not exist. If he does not exist, "he is ill" is false and "he is not ill" is true. So it would be distinctive of these alone, the things opposed as affirmation and denial, that one of them is always true and the other false.

### MORE ON CONTRARIES

*Aristotle discusses the contraries of good and bad, and the genera to which contraries belong.*

The contrary of a good is necessarily a bad. This is clear by induction from particular cases. Illness is contrary to health, [14a] cowardice to courage, and similarly with the others. But the contrary of a bad is sometimes a good and sometimes a bad. Deficiency, which is a bad, has as its contrary excess, which is itself a bad. Likewise the mean, which is a good, is contrary to each of them. One would see this in few cases, though. In most, the contrary of a bad is always a good.

Further, with contraries it is not necessary, if one exists, that the other exist too. If everyone is healthy, there will be health but not illness. Likewise, if everything is white, there will be whiteness but not blackness. Further, suppose that Socrates' being healthy is contrary to Socrates' being ill, and that both cannot belong to the same thing at the same time. Then it would not be possible for the other contrary to exist when one of them exists. If Socrates' being healthy exists, Socrates' being ill would not.

It is also clear that contraries naturally occur in connection with the same thing, either in species or in genus. Illness and health naturally occur in an animal's body, whiteness and blackness in body without qualification, and justice and injustice in a man's soul.

All contraries must either be in the same genus, or in contrary genera, or be genera themselves. White and black are in the same genus, since color is their genus. Justice and injustice are in contrary genera, since the genus of the one is excellence and that of the other is vice. Good and bad, however, are not in a genus, but are themselves genera of certain things.

## PRIOR

*One thing is called prior to another in time, in implication of being, in order, in value, or as cause.*

One thing is called prior to another in four ways. The first and most strict is in time. In this sense one thing is called older and more ancient than another, since it is called both older and more ancient because its time is greater. Second, a thing is prior when the implication of being does not reciprocate. One, for example, is prior to two. If there are two, it follows at once that there is one, but if there is one, it is not necessary that there be two. So from one the implication that the other exists does not reciprocate. And what seems to be prior is that from which the implication of being does not reciprocate.

Third, a thing is called prior with respect to a certain order, as with branches of knowledge and speeches. In the demonstrative branches of knowledge there is a prior and posterior in order. The elements are prior in order to the [14b] diagrams, and in grammar the letters are prior to the syllables. The same holds for speeches, for the introduction is prior in order to the narration.[8]

Further, besides those mentioned, what is better and more valued seems to be prior by nature. Most people are in the habit of saying that those they hold in greater honor and love more are "first" with them. This is, though, pretty much the most remote of the ways.

8 In geometry the "elements" are the basic propositions and the "diagrams" the proofs built on them. The same Greek word for "elements" also means the letters of the alphabet.

These, then, are roughly the ways in which prior is spoken of. But there might seem to be another way of being prior besides those mentioned. Some things reciprocate as to implication of being, and the one that is in some way the cause of the other's being might reasonably be called prior by nature. That there are some such cases is clear. There being a man reciprocates as to implication of being with the true statement about it. If there is a man, the statement by which we say that there is a man is true. And it does reciprocate, for if the statement by which we say that there is a man is true, there is a man. The true statement, however, is in no way the cause of the thing's being. But the thing does seem in some way to be the cause of the statement's being true, since it is because the thing is or is not that the statement is called true or false. So one thing is called prior to another in five ways.

### SIMULTANEOUS

*Things are simultaneous in time, or by nature when they reciprocate without either causing the other.*

Things are called simultaneous, without qualification and most strictly, when their coming to be is at the same time, since neither of them is prior or posterior. These are called simultaneous in time. Things are simultaneous by nature when they reciprocate as to implication of being but neither is in any way the cause of the other's being. The double and the half are an example. These reciprocate, since if there is a double there is a half, and if there is a half there is a double. But neither is the cause of the other's being.

Things divided against one another from the same genus are also called simultaneous by nature. Things are said to be divided against one another when they come from the same division, as winged is divided against footed and aquatic. These are divided against one another from the same genus, since animal is divided into these, into winged, footed and aquatic. None of them is prior or posterior. Rather, such things [15a] seem

to be simultaneous by nature. Each of these, footed, winged and aquatic, might in turn be divided into species. The species that come from the same genus by the same division will then also be simultaneous by nature. Genera, however, are always prior to species, since they do not reciprocate as to implication of being. If there is an aquatic creature, there is an animal, but if there is an animal, it is not necessary that there be an aquatic one.

So things are called simultaneous by nature when they reciprocate as to implication of being but neither is in any way the cause of the other's being. Things divided against one another from the same genus are also simultaneous by nature. Things are simultaneous without qualification when their coming to be is at the same time.

## CHANGE

*There are six kinds of change; alteration is distinct from the others, and each kind has its contrary.*

There are six species of change: coming to be, perishing, increase, decrease, alteration, and change of place.

Now it is evident that the other changes are different from one another. Coming to be is not perishing, and increase is neither decrease nor change of place, and likewise with the others. With alteration, however, there is a problem: perhaps whatever is altered must be altered by one of the other changes. But this is not true. We are altered with respect to practically all affections, or most of them, without sharing in any of the other changes. What is changed in respect of an affection need not increase or decrease, and the same holds for the rest. So alteration would be different from the other changes. If it were the same, what is altered would have to increase or decrease at once, or go through one of the other changes. But it need not. Likewise, what increases, or goes through some other change, would have to be altered. But there are some things that increase without being altered. When a gnomon is placed around a square, for example, the square has increased but has

not been altered at all. The same holds for other such cases. So the changes would be different from one another.[9]

15b Change without qualification has rest as its contrary, and the particular changes have the particular contraries. Coming to be has perishing, increase has decrease, and change of place has rest in place. But change toward the contrary place seems most of all to be opposed to change of place, for example upward change to downward, and downward change to upward. With the remaining one of the changes listed, it is not easy to say what its contrary is. It seems that nothing is contrary to it, unless here too one were to oppose rest in quality, or change to the contrary of the quality. That would be just as, with change of place, one opposes rest in place or change to the contrary place. For alteration is change in quality. So change in quality will be opposed by rest in quality or by change to the contrary of the quality. Becoming white, for example, will be opposed by becoming black. For a thing is altered when a change of quality into contraries takes place.

## HAVING

*Having is said in many ways, from having knowledge or a size to having a house or a wife.*

Having is spoken of in several ways. It may be having as a state and condition, or some other quality, since we are said to have some knowledge, or excellence. It may be having as a quantity, such as the size someone happens to have, for he is said to have a size of three cubits or of four. It may be having as with things on the body, such as a cloak or tunic, or as with something on a part, such as a ring on a hand. It may be having as a part, such as a hand or foot. It may be having as in a vessel, as the bushel has the wheat or the jar the wine. The jar is said to have wine, and the bushel wheat, so all these are said to have as in a vessel.

9 A gnomon is an L-shaped figure; fitted around two sides of a square, it produces a larger square.

Or it may be having as a possession, for we are said to have a house or a field.

We are also said to have a wife, and a wife to have a husband. But the way of having just mentioned seems the most remote, since by "has a wife" we signify nothing other than that he lives with her.

Perhaps some other ways of having might come to light too, but the ones customarily spoken of have practically all been enumerated.