BOOK II

1. Of things that exist, some exist by nature, some from other causes. By nature the animals and their parts exist, and the plants and the simple bodies (earth, fire, air, water)—for we say that these and the like exist by nature.

All the things mentioned plainly differ from things which are not constituted by nature. For each of them has within itself a principle of motion and of stationariness (in respect of place, or of growth and decrease, or by way of alteration). On the other hand, a bed and a coat and anything else of that sort, qua receiving these designations—i.e. in so far as they are products of art—have no innate impulse to change. But in so far as they happen to be composed of stone or of earth or of a mixture of the two, they do have such an impulse, and just to that extent—which seems to indicate that nature is a principle or cause of being moved and of being at rest in that to which it belongs primarily, in virtue of itself and not accidentally.

I say 'not accidentally', because (for instance) a man who is a doctor might himself be a cause of health to himself. Nevertheless it is not in so far as he is a patient that he possesses the art of medicine: it merely has happened that the same man is doctor and patient—and that is why these attributes are not always found together. So it is with all other artificial products. None of them has in itself the principle of its own production. But while in some cases (for instance houses and the other products of manual labour) that principle is in something else external to the thing, in others—those which may cause a change in themselves accidentally—it lies in the things themselves (but not in virtue of what they are).

Nature then is what has been stated. Things have a nature which have a principle of this kind. Each of them is a substance; for it is a subject, and nature is always in a subject.

The term 'according to nature' is applied to all these things and also to the attributes which belong to them in virtue of what they are, for instance the property of fire to be carried upwards—which is not a nature nor has a nature but is by nature or according to nature.

What nature is, then, and the meaning of the terms 'by nature' and 'according to nature', has been stated. That nature exists, it would be absurd to try to prove; for it is obvious that there are many things of this kind, and to prove what is obvious by what is not is the mark of a man who is unable to distinguish what is self-evident from what is not. (This state of mind is clearly possible. A man blind from birth might reason about colours.) Presumably therefore such persons must be talking about words without any thought to correspond.

Some identify the nature or substance of a natural object with that immediate constituent of it which taken by itself is without arrangement, e.g. the wood is the nature of the bed, and the bronze the nature of the statue.

As an indication of this Antiphon points out that if you planted a bed and the rotting wood acquired the power of sending up a shoot, it would not be a bed that would come up, but wood which shows that the arrangement in accordance with the
rules of the art is merely an accidental attribute, whereas the substance is the other, which, further, persists continuously through the process.

But if the material of each of these objects has itself the same relation to something else, say bronze (or gold) to water, bones (or wood) to earth and so on, that (they say) would be their nature and substance. Consequently some assert earth, others fire or air or water or some or all of these, to be the nature of the things that are. For whatever any one of them supposed to have this character—whether one thing or more than one thing—this or these he declared to be the whole of substance, all else being its affections, states, or dispositions. Every such thing they held to be eternal (for it could not pass into anything else), but other things to come into being and cease to be times without number.

This then is one account of nature, namely that it is the primary underlying matter of things which have in themselves a principle of motion or change.

Another account is that nature is the shape or form which is specified in the definition of the thing.

For the word 'nature' is applied to what is according to nature and the natural in the same way as 'art' is applied to what is artistic or a work of art. We should not say in the latter case that there is anything artistic about a thing, if it is a bed only potentially, not yet having the form of a bed; nor should we call it a work of art. The same is true of natural compounds. What is potentially flesh or bone has not yet its own nature, and does not exist by nature, until it receives the form specified in the definition, which we name in defining what flesh or bone is. Thus on the second account of nature, it would be the shape or form (not separable except in statement) of things which have in themselves a principle of motion. (The combination of the two, e.g. man, is not nature but by nature.)

The form indeed is nature rather than the matter; for a thing is more properly said to be what it is when it exists in actuality than when it exists potentially. Again man is born from man but not bed from bed. That is why people say that the shape is not the nature of a bed, but the wood is—if the bed sprouted, not a bed but wood would come up. But even if the shape is art, then on the same principle the shape of man is his nature. For man is born from man.

Again, nature in the sense of a coming-to-be proceeds towards nature. For it is not like doctoring, which leads not to the art of doctoring but to health. Doctoring must start from the art, not lead to it. But it is not in this way that nature is related to nature. What grows qua growing grows from something into something. Into what then does it grow? Not into that from which it arose but into that to which it tends. The shape then is nature.

Shape and nature are used in two ways. For the privation too is in a way form. But whether in unqualified coming to be there is privation, i.e. a contrary, we must consider later.

2. We have distinguished, then, the different ways in which the term 'nature' is used.

*Reading τιχνή, with the MSS, for Ross' φύσις.
making an absurd statement when he said ‘he has the end for the sake of which he was born’. For not every stage that is last claims to be an end, but only that which is best.

For the arts make their material (some simply make it, others make it serviceable), and we use everything as if it was there for our sake. (We also are in a sense an end. ‘That for the sake of which’ may be taken in two ways, as we said in our work On Philosophy.) The arts, therefore, which govern the matter and have knowledge are two, namely the art which uses the product and the art which directs the production of it. That is why the using art also is in a sense directive; but it differs in that it knows the form, whereas the art which is directive as being concerned with production knows the matter. For the helmsman knows and prescribes what sort of form a helm should have, the other from what wood it should be made and by means of what operations. In the products of art, however, we make the material with a view to the function, whereas in the products of nature the matter is there all along.

Again, matter is a relative thing—for different forms there is different matter.

How far then must the student of nature know the form or essence? Up to a point, perhaps, as the doctor must know sinew or the smith bronze (i.e. until he understands the purpose of each); and the student of nature is concerned only with things whose forms are separable indeed, but do not exist apart from matter. Man is begotten by man and by the sun as well. The mode of existence and essence of the separable it is the business of first philosophy to define.

Now that we have established these distinctions, we must proceed to consider causes, their character and number. Knowledge is the object of our inquiry, and men do not think they know a thing till they have grasped the ‘why’ of it (which is to grasp its primary cause). So clearly we too must do this as regards both coming to be and passing away and every kind of natural change, in order that, knowing their principles, we may try to refer to these principles each of our problems.

In one way, then, that out of which a thing comes to be and which persists, is called a cause, e.g. the bronze of the statue, the silver of the bowl, and the genera of which the bronze and the silver are species.

In another way, the form or the archetype, i.e. the definition of the essence, and its genera, are called causes (e.g. of the octave the relation of 2:1, and generally number), and the parts in the definition.

Again, the primary source of the change or rest; e.g. the man who deliberated is a cause, the father is cause of the child, and generally what makes of what is made and what changes of what is changed.

Again, in the sense of end or that for the sake of which a thing is done, e.g. health is the cause of walking about. (‘Why is he walking about?’ We say: ‘To be

11Omitting ἡ ἀρχήτεκτονή.
12Reading μέχρι τοῦ τίνος γάρ (Jaeger).
healthy, and, having said that, we think we have assigned the cause. The same is true also of all the intermediate steps which are brought about through the action of something else as means towards the end, e.g. reduction of flesh, purging, drugs, or surgical instruments are means towards health. All these things are for the sake of the end, though they differ from one another in that some are activities, others instruments.

This then perhaps exhausts the number of ways in which the term ‘cause’ is used.

As things are called causes in many ways, it follows that there are several causes of the same thing (not merely accidentally), e.g. both the art of the sculptor and the bronze are causes of the statue. These are causes of the statue *qua* statue, not in virtue of anything else that it may be—only not in the same way, the one being the material cause, the other the cause whence the motion comes. Some things cause each other reciprocally, e.g. hard work causes fitness and *vice versa*, but again not in the same way, but the one as end, the other as the principle of motion. Further the same thing is the cause of contrary results. For that which by its presence brings about one result is sometimes blamed for bringing about the contrary by its absence. Thus we ascribe the wreck of a ship to the absence of the pilot whose presence was the cause of its safety.

All the causes now mentioned fall into four familiar divisions. The letters are the causes of syllables, the material of artificial products, fire and the like of bodies, the parts of the whole, and the premisses of the conclusion, in the sense of ‘that from which’. Of these pairs the one set are causes in the sense of what underlies, e.g. the parts, the other set in the sense of essence—the whole and the combination and the form. But the seed and the doctor and the deliberator, and generally the maker, are all sources whence the change or stationariness originates, which the others are causes in the sense of the end or the good of the rest; for that for the sake of which tends to be what is best and the end of the things that lead up to it. (Whether we call it good or apparently good makes no difference.)

Such then is the number and nature of the kinds of cause.

Now the modes of causation are many, though when brought under heads they too can be reduced in number. For things are called causes in many ways and even within the same kind one may be prior to another: e.g. the doctor and the expert are causes of health, the relation 2:1 and number of the octave, and always what is inclusive to what is particular. Another mode of causation is the accidental and its genera, e.g. in one way Polyclitus, in another a sculptor is the cause of a statue, because being Polyclitus and a sculptor are accidentally conjoined. Also the classes in which the accidental attribute is included; thus a man could be said to be the cause of a statue or, generally, a living creature. An accidental attribute too may be more or less remote, e.g. suppose that a pale man or a musical man were said to be the cause of the statue.

All causes, both proper and accidental, may be spoken of either as potential or as actual; e.g. the cause of a house being built is either a house-builder or a house-builder building.
Similar distinctions can be made in the things of which the causes are causes, e.g. of this statue or of a statue or of an image generally, of this bronze or of bronze or of material generally. So too with the accidental attributes. Again we may use a complex expression for either and say, e.g., neither ‘Polycritos’ nor a ‘sculptor’ but ‘Polycritos, the sculptor’.

All these various uses, however, come to six in number, under each of which again the usage is twofold. It is either what is particular or a genus, or an accidental attribute or a genus of that, and these either as a complex or each by itself; and all either as actual or as potential. The difference is this much, that causes which are actually at work and particular exist and cease to exist simultaneously with their effect, e.g. this healing person with this being-healed person and that housebuilding man with that being-built house; but this is not always true of potential causes—the house and the housebuilder do not pass away simultaneously.

In investigating the cause of each thing it is always necessary to seek what is most precise (as also in other things): thus a man builds because he is a builder, and a builder builds in virtue of his art of building. This last cause then is prior; and so generally.

Further, generic effects should be assigned to generic causes, particular effects to particular causes, e.g. statue to sculptor, this statue to this sculptor; and powers are relative to possible effects, actually operating causes to things which are actually being effected.

This must suffice for our account of the number of causes and the modes of causation.

But chance and spontaneity are also reckoned among causes: many things are said both to be and to come to be as a result of chance and spontaneity. We must inquire therefore in what manner chance and spontaneity are present among the causes enumerated, and whether they are the same or different, and generally what chance and spontaneity are.

Some people even question whether there are such things or not. They say that nothing happens by chance, but that everything which we ascribe to chance or spontaneity has some definite cause, e.g. coming by chance into the market and finding there a man whom one wanted but did not expect to meet is due to one’s wish to go and buy in the market. Similarly, in other so-called cases of chance it is always possible, they maintain, to find something which is the cause; but not chance, for if chance were real, it would seem strange indeed, and the question might be raised, why on earth none of the wise men of old in speaking of the causes of generation and decay took account of chance; whence it would seem that they too did not believe that anything is by chance. But there is a further circumstance that is surprising. Many things both come to be and are by chance and spontaneity, and although all know that each of them can be ascribed to some cause (as the old argument said which denied chance), nevertheless they all speak of some of these things as happening by chance and others not. For this reason they ought to have at least referred to the matter in some way or other.