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that which underlies is a principle, and is thought to be prior to that which is said of it.

Again, we do not say that one reality is the opposite of another. How, then, can a reality be constituted by things which are not realities? And how can that which is not a reality be prior to that which is?

35 Anyone, then, who accepts both the earlier argument and
189^a this, must, if he is to preserve both, posit some third thing
which underlies, as do those who say that the universe is one
single nature, such as water or fire or something between the
two. The last suggestion is the most hopeful, since fire, earth,
5 air, and water are already tangled up with oppositions. Those,
then, are not without reason, who make the underlying thing
different from any of these, or, if one of them, air, since that
has the least perceptible differentiating features. After it comes
water. Anyhow, all shape their one stuff with the opposites,
10 with density and rarity and the more and the less; and these
clearly, as I said above, are, in general terms, excess and defect.
It does not seem to be at all a novel idea, that the principles of
things are the one, excess and defect, though it has been put
forward in different ways: earlier inquirers made the single
15 principle passive and the pair active, whilst certain more
recent thinkers prefer to turn it round and say that it is the
one which is active and the pair passive.

That there are as many as three elements, then, may seem
arguable to anyone guided by these and similar considera-
tions; but at three we might draw the line. The single one is
enough for being acted on; and if there are four, giving us
20 two oppositions, we shall have to supply a further intermediate
nature for each separately. Or if there are two pairs and they
can produce things out of one another, one of the oppositions
will be otiose. Moreover, there cannot be more than one
primary opposition. Reality is a single kind of thing, so that
the principles can differ only in being prior or posterior
25 to one another, and not in kind. In any one kind there is
always one opposition, and all oppositions seem to reduce
to one.

That the elements, then, are neither one in number, nor more than two or three, is plain; but whether they are two or three is, as I have said, a very difficult question.

CHAPTER 7

This is how I tackle it myself. I shall be dealing first with 30
coming to be in general, since the natural procedure is first to
say what is common to all cases, and only then to consider the
peculiarities of each.

When we say that one thing comes to be out of another, or
that something comes to be out of something different, we
may be talking either about what is simple or about what is
compound. Let me explain. A man can come to be knowing
music, and also the not knowing music can come to be know-
ing music, or the not knowing music man a man knowing 35
music. I call the man and the not knowing music simple
coming-to-be things, and the knowing music a simple thing
which comes to be. When we say that the not knowing music
man comes to be a knowing music man, both the coming-to-
be thing and that which comes to be are compound.

In some of these cases we say, not just that this comes to
be, but that this comes to be out of this—for instance, knowing
music comes to be out of not knowing music. But not in all:
knowing music does not come to be out of man, but the
man comes to be knowing music.

Of what we call the simple coming-to-be things, one remains
when it comes to be, and the other does not. The man remains 10
and is a man when he comes to be knowing music,* but the
not knowing music and the ignorant of music do not remain,
either by themselves or as components.

These distinctions having been made, in all cases of coming
to be, if they are looked at, as I suggest, this may be taken as
definite, that there must always be something underlying
which is the coming-to-be thing, and this, even if it is one in
15 number, is not one in form. (By 'in form' I mean the same

101^a they are not two in every way, because of the diverse being
 which belongs to them, but three. (For the being of a man is
 different from the being of ignorant of music, and the being
 of shapeless from the being of bronze.)

How many principles there are of natural things [which are
 involved in coming to be],* and in what way they are so
 many, has now been said. It is clear that there must be some-
 thing to underlie the opposites, and that the opposites must
 be two in number. Yet in another way that is not necessary.
 One of the opposites, by its absence and presence, will suffice
 to effect the change.

As for the underlying nature, it must be grasped by analogy.
 As bronze stands to a statue, or wood to a bed, or [the matter
 and] the formless before it acquires a form to anything else
 which has a definite form, so this stands to a reality, to a this
 thing here, to what is. This, then, is one principle, though it
 neither is, nor is one, in the same way as a this thing here;
 another principle is that of which we give the account; and
 there is also the opposite of this, the lack. In what way these
 15 principles are two, and in what way more than two, has been
 said above. The theory originally was that the only principles
 were the opposites; then that there had to be something else
 to underlie them, making the principles three; on our present
 showing it is plain what sort of opposites are involved,*
 how the principles stand to one another, and what the under-
 lying thing is. Whether the form or the underlying thing has
 20 the better claim to be called the reality, is still obscure; but
 that the principles are three, and how, and what the manner
 of them is, is clear.
 So much on how many and what the principles are.

CHAPTER 8

That this is the only way of resolving the difficulty felt by
 thinkers of earlier times must be our next point. The first
 25 people to philosophize about the nature and truth of things

got so to speak side-tracked or driven off course by in-
 experience, and said that nothing comes to be or passes away,
 because whatever comes to be must do so either out of some-
 thing which is, or out of something which is not, and neither
 is possible. What is cannot come to be, since it is already, and
 nothing can come to be out of what is not, since there must
 be something underlying. And thus inflating the consequences
 of this, they deny a plurality of things altogether, and say
 that there is nothing but 'what is itself'.

They embraced this opinion for the reasons given. We, on
 the other hand, say that it is in one way no different, that
 something should come to be out of what is or is not, or that
 what is or is not should act on or be acted on by something, or
 come to be any particular thing, than that a doctor should act
 on or be acted on by something, or that anything should be
 or come to be out of a doctor. By this last we may mean two
 things, so clearly it is the same when we say that something
 is out of something which is, and that what is acts or is
 acted on. A doctor builds a house, not as a doctor, but
 as a builder, and comes to be pale, not as a doctor, but as
 5 dark. But he doctors and comes to be ignorant of medicine
 as a doctor. Now we most properly say that a doctor acts or
 is acted on, or that something comes to be out of a doctor,
 only if it is as a doctor that he does or undergoes or comes to
 be this. So clearly to say that something comes to be out of
 what is not, is to say that it does so out of what is not, as
 something which is not. They gave up through failing to draw
 10 this distinction, and from that mistake passed to the greater
 one of supposing that nothing comes to be or, apart from what
 is itself, is, thus doing away with coming to be altogether. We
 too say that nothing comes to be simply out of what is not;
 but that things do come to be in a way out of what is not,
 sc. by virtue of concurrence. A thing can come to be out of
 15 the lack, which in itself is something which is not, and is not
 a constituent. This, however, makes people stare, and it is
 thought impossible that anything should come to be in this
 way, out of what is not.

a reality; for it is an underlying thing, and nature is always
 35 in an underlying thing. It is in accordance with nature, and
 so is anything which belongs to it of itself, as moving upwards
 193^a belongs to fire—for that neither is a nature nor has a nature,
 but is due to nature and in accordance with nature.

We have now said what nature is and what we mean by that
 which is due to nature and in accordance with nature. That
 there is such a thing as nature, it would be ridiculous to try
 to show; for it is plain that many things are of the sort just
 5 described. To show what is plain by what is obscure is a sign
 of inability to discriminate between what is self-evident and
 what is not—and it is certainly possible to be so placed: a
 man blind from birth would have to make inferences about
 colours. For such people discussion must be about the words
 only, and nothing is understood.*

Some people think that the nature and reality of a thing
 10 which is due to nature is the primary constituent present in
 it, <something> unformed in itself. Thus in a bed it would be
 the wood, in a statue the bronze. It is an indication of this,
 says Antipho, that if you bury a bed, and the decomposition
 gets the ability to send up a shoot, what comes up will not
 be a bed but wood: this seems to show that the disposition
 15 of parts customary for beds and the artistry belong only by
 virtue of concurrence, and that the reality is that which per-
 sists uninterruptedly while being affected in these ways. And
 if the particular kinds of material too are related to something
 else in the same way, if, for instance, bronze and gold stand
 20 thus to water, and bone and wood to earth, and so on, the
 thing to which they stand in this relation will be their nature
 and reality. Hence fire, earth, air, and water have been held to
 be the nature of things, some people choosing just one for this
 role, some several, and some making use of all. Those who fix on
 some such element or elements represent it or them as the entire
 25 reality, and say that other things are merely affections, states,
 or dispositions; and these elements are all held to be imperish-
 able in that they do not change out of themselves, whilst
 other things come to be and pass away as often as you please.

That is one way of using the word 'nature': for the primary
 underlying matter in each case, of things which have in them-
 selves a source of their movements and changes. It is also used
 for the shape and form which accords with a thing's account.
 Just as that which is in accordance with art and artificial is
 called art, so that which is in accordance with nature and
 natural is called nature. And as in the one case we would not
 yet say that a thing is at all in accordance with art, or that
 it is art, if it is a bed only in possibility, and has not yet the
 form of a bed, so with things constituted naturally: that
 which is flesh or bone only in possibility, before it acquires
 the form which accords with the account by which we define
 what flesh or bone is, does not yet have its proper nature,
 and is not a thing due to nature. So there is another way of
 speaking, according to which nature is the shape and form of
 things which have in themselves a source of their changes,
 something which is not separable except in respect of its
 account. Things which consist of this and the matter together,
 such as men, are not themselves natures, but are due to nature.
 The form has a better claim than the matter to be called
 nature. For we call a thing something, when it is that thing in
 actuality, rather than just in possibility.

Further, men come to be from men, but not beds from beds.
 That is why people say that the nature of a bed is not the shape
 but the wood, since if it sprouts, what comes to be is wood and
 not a bed. But if this shows that the wood is nature, nature
 is form too; for men come to be from men.

Again, nature in the sense in which the word is used for
 a process proceeds towards nature. It is not like doctoring,
 which has as its end not the art of medicine but health.
 Doctoring must proceed from the art of medicine, not towards
 it. But the process of growth does not stand in this relation to
 nature: that which is growing, as such, is proceeding from
 something to something. What, then, is it which is growing?
 Not the thing it is growing out of, but the thing it is growing
 into. So the form is nature.

Things may be called form and nature in two ways, for the

things; for instance in mathematics it comes back at last to a definition of straight or commensurable or the like. Or to that which in the first instance effects the change; thus on account of what did they go to war? Because of border raids, 20 Or it is what the thing is for: they fought for dominion. Or, in the case of things which come to be, the matter.

Plainly, then, these are the causes, and this is how many they are. They are four, and the student of nature should know about them all, and it will be his method, when stating on account of what, to get back to them all: the matter, the form, the thing which effects the change, and what the thing is for. 25 The last three often coincide. What a thing is, and what it is for, are one and the same, and that from which the change originates is the same in form as these. Thus a man gives birth to a man, and so it is in general with things which are themselves changed in changing other things—and things which are not so changed fall beyond the study of nature. They have no change or source of change in themselves when they change other things, but are unchangeable. Hence there are three 30 separate studies: one of things which are unchangeable, one of things which are changed but cannot pass away, and one of things which can pass away.

So in answering the question 'On account of what?' we bring it back to the matter, and to what the thing is, and to what first effected the change. People usually investigate the causes of coming to be thus: they see what comes after what, 35 and what first acted or was acted on, and go on seeking what comes next. But there are two sources of natural change, of which one is not natural, since it has no source of change in itself. Anything which changes something else without itself being changed is of this latter sort; for instance, that which is completely unchangeable and the first thing of all, and a thing's form or what it is, for that is its end and what it is for. 198^b Since, then, nature is for something, this cause too should be known, and we should state on account of what in every way: that this out of this necessarily (i.e. out of this simply, or out of this for the most part); and if so and so is to be (as the

conclusion out of the premisses); and that this would be what the being would be; and because better thus—better not simply, but in relation to the reality of the thing concerned.

CHAPTER 8

We must first give reasons for including nature among causes 10 which are for something, and then turn to the necessary, and see how it is present in that which is natural. For everyone brings things back to this cause, saying that because the hot is by nature such as to be thus, and similarly the cold and everything else of that sort, therefore these things of necessity come to be and are. For if they mention any other cause, 15 as one does love and strife and another mind, they just touch on it and then goodbye.

The problem thus arises: why should we suppose that nature acts for something and because it is better? Why should not everything be like the rain? Zeus does not send the rain in order to make the corn grow: it comes of necessity. The stuff which has been drawn up is bound to cool, and having cooled, 20 turn to water and come down. It is merely concurrent that, this having happened,* the corn grows. Similarly, if someone's corn rots on the threshing-floor, it does not rain for this purpose, that the corn may rot, but that came about concurrently. What, then, is to stop parts in nature too from being like this 25 the front teeth of necessity growing sharp and suitable for biting, and the back teeth broad and serviceable for chewing the food, not coming to be *for* this, but by coincidence? And similarly with the other parts in which the 'for something' seems to be present. So when all turned out just as if they had come to be for something, then the things, suitably constituted 30 as an automatic outcome, survived; when not, they died, and die, as Empedocles says of the man-headed calves.

This, or something like it, is the account which might give us pause. It is impossible, however, that this should be how things are. The things mentioned, and all things which are 35

luck and paid the ransom before departing, if he believed as if he had come for that purpose but had not in fact come for that purpose. That is by virtue of concurrence (for luck is a cause by virtue of concurrence, as we said above); but when a certain thing comes to be always or for the most part, it is not a concurrent happening, nor the outcome of luck. Now with that which is natural it is always thus if there is no impediment.

It is absurd not to think that a thing comes to be for something unless the thing which effects the change is seen to have deliberated. Art too does not deliberate. If the art of ship-building were present in wood, it would act in the same way as nature; so if the 'for something' is present in art, it is present in nature too. The point is clearest when someone doctors himself: nature is like that.

That nature is a cause, then, and a cause in this way, for something, is plain.

CHAPTER 9

Is that which is of necessity, of necessity only on some hypothesis, or can it also be simply of necessity? The general view is that things come to be of necessity, in the way in which a man might think that a city wall came to be of necessity, if he thought that since heavy things are by nature such as to sink down, and light to rise to the surface, the stones and foundations go down, the earth goes above them because it is lighter, and the posts go on top because they are lightest of all. Now without these things no city wall would have come to be; still, it was not on account of them, except as matter, that it came to be, but for the protection and preservation of certain things. Similarly with anything else in which the 'for something' is present: without things which have a necessary nature it could not be, but it is, not on account of them, except in the way in which a thing is on account of its matter, but for something. Thus on account of what is a saw like this?

That this may be, and for this. It is impossible, however, that this thing which it is for should come to be, unless it is made of iron. It is necessary, then, that it should be made of iron, if there is to be a saw, and its work is to be done. The necessary, then, is necessary on some hypothesis, and not as an end: the necessary is in the matter, the 'that for which' in the account.

The necessary appears in mathematics and in the things which come to be in accordance with nature, in a parallel fashion. Because the straight is so and so, it is necessary that a triangle should have angles together equal to two right angles, and not the other way round. Still, if triangles did not have angles together equal to two right angles, we should have no straight lines.* With things which come to be for something the case is reversed: if the end will be or is, that which comes before will be or is; and if we do not have it, then just as in mathematics, if we do not have the conclusion, we shall not have the starting-point, so here we shall not have the end or that for which. That too is a starting-point, not of the practical activity, but of the reasoning. (In mathematics too the starting-point is of the reasoning, since there is no practical activity there.) So if there is to be a house, it is necessary that these things should come to be or be present, and in general it is necessary that there should be the matter which is for something, e.g. the bricks and stones if there is to be a house. Nevertheless, the end is not on account of these things except as matter, nor on account of them will it come into being. In general, if they, for instance the stones or the iron, are not present, there will be no house or saw; just as in mathematics there will not be the starting-points if the triangle does not have angles together equal to two right angles.

Plainly, then, the necessary in things which are natural is that which is given as the matter, and the changes it undergoes. The student of nature should state both causes, but particularly the cause which is what the thing is for; for that is responsible for the matter, whilst the matter is not responsible

(^a31). Ross takes this as meaning 'from a consideration of the argument' and cites as parallel *De gen. et cor.* I 325^a14, where Aristotle speaks of philosophers who say one ought to follow the argument. This passage is not in fact a good parallel, because Aristotle is apparently quoting a well-known slogan, and the argument in question is a famous one. Better for Ross's interpretation are Plato, *Rep.* I 349 a 4-5, *Laws* V 733 a 6-7, etc. However, another passage in Plato, *Phaedo* 99 e 4-100 a 2, suggests that 'considering logos' is simply considering speech, or things said, and this passage is the more deserving of attention here, because the argument which follows is foreshadowed by *Phaedo* 70 c-72 d. I have tried to leave the matter open by translating 'from logical considerations'; the phrase seem to me akin in meaning to 'logically' in *Met. Z* 1029^b13 (cf. *Met. A* 987^b31-2 with *A* 1066^a28), and the logical considerations adduced there turn out to concern the way we speak.

Aristotle says that it is not a matter of chance what comes to be out of what, but a thing always comes from its opposite or something in between. This is not an empirical doctrine to the effect that the universe is regular; it is the purely logical doctrine that change is within definite ranges. We would say that a thing changes from being red to being blue, or from being round to being elliptical; we would not say that a thing changes from being red to being elliptical, or from being round to being blue—though of course something round which changed to being elliptical might also have happened to be red, cf. 188^a34-6. This seems to be a sound point, and one way of understanding an Aristotelian 'kind of thing' or category (189^a14, ^a24-6) is as a range within which things may change.

In taking this line, Aristotle diverges both from the Presocratics and from Plato. He differs from the Presocratics, in that whilst they made everything come to be out of the same opposed principles, either dense and rare or cold and hot or the like, he makes things come to be out of different but analogous opposed principles. In so doing, he removes the discussion from the sphere of empirical to the sphere of philosophic inquiry. And his insistence that pale does not come from just anything other than pale but from the opposed state, is probably directed against Plato, who in the *Sophist* construes 'that which is not *f*' as 'that which is not identical with *f*', so that it covers not only whatever is opposed to *f*, but also things which have nothing to do with *f* at all: see 256-9, especially 259 b. If Aristotle were asked whether Plato is not as competent as himself to remove the difficulty about coming to be experienced by the Presocratics (see above, p. 64) this is probably one of the points he would make.

The outline of 188^a30-^a26 is fairly clear, but there are a couple of points left in some obscurity. First, the nature of the opposition. Pale and dark, hot and cold, are indefinite opposites: neither 'pale' nor

'dark' is the expression for a definite colour—things are called pale and dark relative to some norm and, e.g., a pale Sicilian may be darker than a dark Swede. On the other hand, the arrangement of bricks in a house is something definite, and whilst the state of being arranged not thus but otherwise³ may be called indefinite (cf. *De int.* 16^a30-2), the two are opposed, not like pale and dark or hot and cold, but rather like correct and incorrect or hitting and missing. It will appear in chapter 7, but hardly appears here, that the opposites which are principles are opposed in this latter way.

Second, it is unclear whether the opposites are entities the correct expressions for which would be abstract, like 'pallor', 'knowledge of music', or concrete, like 'pale thing', 'thing which knows music'. Aristotle uses the neuter adjective with the definite article, which may be taken either way. We shall have to settle this point too when we come to chapter 7.

For the idea (188^b23-5) that particular colours are 'out of' i.e. compounds of pale and dark cf. *De sensu* 3, *Plato, Tim.* 67 d-68 d.

CHAPTER 6

In this chapter Aristotle argues that whilst it cannot plausibly be held that the principles of physical things are less than two or more than three in number, there are reasons for thinking they may be as many as three. A hasty reading might make us think that Aristotle is arguing that, besides the opposites of the sort identified in chapter 5, we must always suppose that there is a third factor underlying them. In fact, he is careful not to be so dogmatic. Whereas he usually describes even the most questionable points he makes as clear or plain (*dêlon, phaneron*), here he uses carefully guarded language: there is an argument for positing an underlying thing, 189^a21-3, ^a17-18; people might feel difficulties otherwise, ^a22, 28; if anyone accepts certain arguments, he must say so and so, ^a35-^b1; but in the end, whether we are to posit underlying things remains a very difficult question, ^b29. The truth is that Aristotle is presenting a mild antinomy: the arguments that the principles are opposites suggest that there are two in number, but there are also arguments suggesting they must be as many as three. Chapter 7 is intended, among other things, to resolve the antinomy (v. Aristotle's summary of the whole discussion, 191^a15-19).

Aristotle begins by rehearsing the arguments against allowing either one principle only, or an unlimited number (189^a11-20). Among the difficulties about positing an unlimited number he includes the fact that there is 'only one opposition in each kind of thing, and reality is one such kind (189^a13-14). 'Kinds of thing' were explained above

CHAPTER 7

This chapter, in which Aristotle puts forward his own (189^b30) account of the principles of physical things, is generally agreed to constitute his formal introduction of the notions, fundamental in his thinking, of matter and form, and he himself seems to refer us to it for detailed treatment of these notions in *De gen. et cor.* I 317^a13, II 329^a27, *Met. M* 1076^b8-9, etc. Unfortunately it contains ambiguities. Aristotle uses neuter adjectives with the definite article, which as we have seen (p. 67) can be understood in two ways, and he makes much play with the verb *ginesthai* (e.g. 190^a28-31), which can mean either 'to become' or 'to come into existence'. I have tried to preserve these ambiguities in my translation; to appreciate them fully the reader should remember that the phrase I translate 'the ignorant of music' could be used for the state 'ignorance of music'.

The general view of commentators is that an Aristotelian form is an entity the natural expression for which is an abstract noun or equivalent phrase, like 'knowledge of music', 'sphericity', 'what it would be to be a man'. (It is because of this that they find obscure the argument of *Met. Z*, that forms are the entities with the best claim to be called realities in the sense (v. 1028^b36-1029^a9) explained above, p. 56; for Aristotle constantly says that only a particular thing, 'a this thing here', can be a reality, and it is hard to see how something like man-ness could be a this thing here, or a thing which colours, sizes, etc., are of.) If this is right, then since the three factors involved in any case of change are the matter, the form, and the lack (190^b23-9, 191^a12-14, etc.), the factors involved in Aristotle's case of the man who learns music ought to be the man, ignorance of music, and knowledge of music. In support of the view that these are the factors he is really trying to elicit, the following passages may be cited. In 190^b15 we have abstract nouns for the *terminus a quo* factor, 'shapelessness' and 'formlessness', and in 208 for the *terminus ad quem*, 'arrangement', 'knowledge of music'. Similarly in chapter 5 Aristotle speaks of opposed dispositions (188^b11) and uses the abstract nouns 'disunion' (114), 'shapelessness' (20), and the verbal phrase 'the not being put together but dispersed thus' (18-19). And in *Met. A* 1070^b28-9, in a context similar to the present, he gives the examples health, disease, and body, and form, such and such a disorder, and bricks. Further, Aristotle's generic expression for the opposite from which change takes place is an abstract noun, 'the lack', *steresis*.

Nevertheless, translators and commentators seem agreed that the factors distinguished when a man learns music are not the man, ignorance of music, and knowledge of music, but the man, the thing which is ignorant of music, and a thing which knows music. If Bekker's reading in 189^b35 to *má musikon ti* is right (in my translation, with reluctance, I

follow Ross's text with the *ti* omitted), Aristotle says this unambiguously. Even if it is wrong, this is still the most natural way of understanding his words, and is confirmed by *musikos* instead of *musicos* in 190^a7. If this is so, however, it becomes questionable whether an Aristotelian form is, after all, an entity the natural expression for which is an abstract noun. And if a concrete expression is just as natural or more so, doubt is cast on the whole traditional interpretation of Aristotle's teaching on matter and form. The relation of matter to form is traditionally construed, I think, as a kind of thing-property relationship, like that of a man to knowledge of music, or of bronze (see below) to sphericity; if the authentic model for the matter-form relationship is that of man to which knows music, or of bronze to a sphere, the relationship must be construed differently. Evidence telling for abstract expressions has been given above; evidence telling for concrete expressions is, I think, much stronger, and since the issue is important, I give it in some detail. It suggests that the matter-form relationship is that of constituent to thing constituted (cf. D. Wiggins, *Identity and Spatio-Temporal Continuity*, p. 48).

1. In chapter 5 Aristotle reckons among *termini ad quos* of change, houses and statues (188^b17). It is true that he also says that such things are all arrangements or compositions (20-1), but that only allows us to gloss abstract expressions elsewhere with concrete ones: Aristotle may be thinking of arrangements and compositions, not as things added to, but as things constituted by, bricks, bronze, and the like; indeed, he says in *Met. H* 1043^b5-6: 'The syllable does not consist of letters and composition; the house is not bricks and composition.'

2. In the formal explanation of the 'underlying nature' in 191^a8-12, Aristotle says: 'As bronze stands to a statue, or wood to a bed, or the formless to anything else which has a form, so this stands to a reality.' If this passage were taken by itself, it might be held that Aristotle thinks 'a bed', 'a statue' are natural expressions, not for forms, but for things which have forms; but in conjunction with (3) and (4) below it suggests that 'a bed', 'a statue' are themselves acceptable expressions for forms.

3. In the formal classification of causes, 195^a16-21, Aristotle says 'Letters are the cause of syllables, the matter of artefacts, fire and the like of bodies, the parts of the whole, and the hypotheses of the conclusion, as that out of which; and the one lot, the parts and so on, are causes as the underlying thing, whilst the other lot, the whole, the composition and form, are causes as what the being would be'. It is hard to understand Aristotle otherwise than as implying that syllables, artefacts, bodies, and wholes *are* forms, and that the matter-form relation is that of constituent to thing constituted.

4. In the formal explanation of the notions of possibility and actuality, *Met. Θ* 1048^a36-b6, Aristotle says: 'We need not seek a definition for every term, but must grasp the analogy: that as that which is actually

material factor is 'that out of which', and in fact the material factor in such cases of alteration has to be characterized as that which the *terminus ad quem* is not out of, and which remains throughout the change. This first part of the argument is fairly straightforward, but some details need attention.

In what sense is a thing which knows or is ignorant of music simple, when a man who knows or is ignorant of music (190^s4-5) is not? An answer might be extracted from the difficult *Met. Z* 4, especially 1029^b22-1030^s5, 1030^s29-32. A man can constitute a thing which knows music, and though constituting a thing which knows music is different in important ways from constituting a man or tree, it is still one thing, and we can say what it would be to constitute or be a thing which knows music. It is not the same with a man who knows music. It is incoherent to talk of a man constituting a man who knows music, and for anything other than a man (e.g., perhaps, a quantity of flesh and bone) to constitute a man who knows music, is not one thing but two, for it is one thing to be a man, and another thing to know music. Hence a thing which knows music is simple in a way in which a man who knows music is not. The point may be more acceptable, if a thing which knows music is understood not as a possessor of, but rather as an exemplification or instance of, knowledge of music. An instance of knowledge of music is clearly more 'simple' than a man who knows music, and if an instance of knowledge of music is simply a thing which knows music as such, then a thing which knows music may also be called simple.

Aristotle says that the thing which is ignorant of music and the man are one 'in number' but two in form or account (190^s13-16). By 'in number' he means 'in reality' or 'in fact' (cf. *Phys.* VIII 262^a21, 263^b13, *De an.* III 427^a2, etc.), but why does he use the phrase? Perhaps because where we can say 'in reality, as distinct from in form or nature', we can also say 'in number'. Thus if I own three sheep, they are three in number and reality, but one in nature, form, account. (In general, it is fulfilments or realizations of possibilities which are numbered: we might talk of three performances of the same play, three makings of the same journey.)

In what sense does the underlying thing remain in alterations (190^s10-11, and see textual note)? A man who becomes a musician does not thereby cease to be a man, but there seems to be more to it than that. In 24-6 Aristotle says that a thing is usually said to come to be out of the factor which does not remain, but sometimes out of the factor which does; for instance we say that a statue arises out of bronze, not that bronze becomes a statue. This is explained in *Met. Z* 1033^a13-18 (cf. also @ 1049^a19-20) and most interestingly, perhaps, though the authority of the book is questionable, in *Phys.* VII: 'When something is shaped or

moulded to completion, we do not say that it is that out of which it comes: thus we do not call the statue bronze or the candle [so Ross ad loc.] wax, or the bed wood, but, by a modification of those expressions, we call them brazen, waxen, wooden. But of that which has been affected and altered, we do speak so. We call the bronze and the wax liquid and hot and hard, and not only that, but we also call the liquid and the hot bronze, speaking of the matter in the same way (?) as the affection. So if, when the change is in respect of shape and form, we do not call the thing which comes into being that in which the shape is, whilst when the change is in respect of affections and an alteration, we do, it is clear that comings into being are not alterations' (245^b9-246^s4). That is, whilst, when a man becomes a musician, the thing which knows music can correctly be called a man, a statue cannot correctly be called bronze, but only brazen. (Or, perhaps: we can refer to a musician as 'that man', but we cannot refer to a statue as 'that bronze', but only as 'that brazen thing'.) And this asymmetry seems to occur because the case of a man's becoming a musician is one of alteration, whilst a statue's arising out of bronze is the coming into existence of a reality. At any rate, Aristotle here classes artefacts like statues and houses as realities, for they come into existence (190^s5), and only realities come into existence (32-3). This brings us to the part of the argument dealing with realities, 31^b9.

With realities too, says Aristotle, there is always something underlying, from which the reality arises, as plants and animals arise from seeds; and he then treats artefacts as being on all fours with plants and animals. There are two difficulties we may notice about his account.

First, in *De gen. et cor.* I 4, Aristotle raises the question whether there is such a thing as coming into existence over and above alteration and, if so, how the two can be distinguished. He answers as follows: 'If some affection [*pathos*, an extremely general word] in that which has passed out of existence remains in that which comes into existence, as transparent and cold do when air turns to water, the thing which the change is a change to must not be an affection of this. If it is, the change will be an alteration. Thus suppose a man who knows music ceases to exist, and a man who is ignorant of music comes into being: the man remains the same. Now if knowledge and ignorance of music were not affections of this, it would be a case of coming to be and passing away . . . but as they are, it is a case of alteration' (319^b21-31). That is, if the *terminus ad quem* is parasitic on, called real because of its relation to, anything which remains throughout the change, the change is an alteration; if whatever remains throughout the change is parasitic on the *terminus ad quem*, the change is a coming into existence. This seems a reasonable criterion for distinguishing alteration from coming into existence; if we apply it, however, it is not clear that statues and houses

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for there to be two opposed principles; one, by its absence and presence, will suffice to effect the change (^a5-7). I suspect these lines are a gloss, taken from 195^a11-14 by a student who did not sufficiently consider that there Aristotle is speaking not of forms but of efficient causes or sources of change; if we accept them as genuine, they present a little difficulty (unless, contrary to what was argued above, we suppose that Aristotle conceived a form as something like house-ness or sphericity). However, Aristotle might have written thus while still conceiving a form as something like a sphere or house (cf. *Met. Z* 1033^a14-15) if he had in mind the mode of exposition to which he refers us in 191^b7-9, one which involves use of the concepts of possibility and actuality. He probably there means the mode employed in *Met. H* 1045^b30-3 (cf. *A* 1075^b34-7): when some bronze becomes a sphere, we should not think that a quantity of stuff somehow comes together with a property, sphericity; we should rather think that (through the commonplace agency of a smith) what is a sphere in possibility comes to be a sphere in actuality. On this showing, the factors are a sphere in possibility and a sphere in actuality, and Aristotle could say that one thing, a sphere, by being possible and actual, suffices for the change. And if a sphere which is merely possible is absent, and one which is actual is present, he could say what is said here, that one thing, a sphere, by being absent and present, suffices for the change.

In 191^a7-12 (already touched on above, p. 71) Aristotle says that the underlying nature, i.e. the material factor, must be grasped by analogy: as bronze stands to a statue, and wood to a bed, so the underlying thing stands to a reality or particular thing. This may be understood in two ways. We might take bronze and wood and statues and beds respectively as examples of underlying things and realities: Aristotle will then be saying that 'underlying thing' and 'reality' are just the generic names for things which stand in this relation. Or we might think that statues and beds are not realities, and bronze and wood are not underlying things; but an underlying thing is what stands to something, which is a reality as wood stands to a bed. I favour the first interpretation, which seems to me supported by the parallel passages (cited above, pp. 71-2), 195^a16-21 and 1048^a35-^b4 (see also Hesse, op. cit., pp. 336-7). Those who think that Aristotle believed in prime matter favour the second interpretation, and say that prime matter stands to realities as wood to a bed, and that its nature must be grasped by analogy because in itself it is wholly indeterminate. Even if Aristotle believed in prime matter, however, it seems impossible that he is introducing it here. In the first place, according to the more sober, it is only to fire, air, earth, and water that prime matter stands as material factor, and Aristotle would not have called fire or its like 'a reality and a this thing here' (cf. *Met. Z* 1040^b5-10). Second, wood is the proximate 'thing out of

which' a bed arises; whatever uncertainty may surround admitted realities like a man or a dog, prime matter is not the proximate thing out of which they arise: that is either seed or flesh. Again, even if Aristotle believed in prime matter, he could hardly have ranked it as a principle without being false to his view (195^b21-3, *Met. H* 1044^b1-3) that we should concentrate on *proximate* causes and principles. Finally, it is incredible that Aristotle should introduce so startling a notion as that of a wholly indeterminate universal substratum in this ambiguous manner, when nothing in the preceding discussion has prepared us for it. We would expect him to say: 'As bronze is to a statue and wood to a bed, so in the case of things constituted naturally there must always be something which remains when they come to be, and this is not different for different things but the same for all. The solution is that it is neither something definite, nor of any definite quality or quantity, etc., etc.' That Aristotle, then, is not here referring to prime matter seems clear; that he does not believe in it at all is argued in the Appendix.

The chapter concludes with a summary of the argument of chapters 5-7: the original theory was that the only principles were the opposites, then that there had to be an additional factor underlying them; it has now been shown what sort of opposites the opposites are, how the principles stand to one another, and what the underlying thing is (191^a13-19). In point of fact, Aristotle's account is incomplete: as we have seen, it does not adequately cover a most important group of things that are, living things, our concept of which is considerably more complex than our concept of things like brazen spheres. Nevertheless, Aristotle does resolve the difficulties which emerged in chapter 6. These difficulties sprang from conceiving the opposites as indefinite and abstract, like density and rarity or heat and coldness; if we conceive them so, we seem to be forced by linguistic pressure to posit a single kind of matter which is the substratum of everything, and for possession of which the opposites are continually at war. Aristotle shows that language does not in fact oblige us to project this picture on the world. We do indeed speak of opposed factors in connection with all physical things. These factors, however, are not the same in every case; they are different in every case and the same only by analogy. And they are not indefinite opposites, but one is definite. It is also true that in all cases we speak of a third factor. This, however, is again different in different cases, and is not something over and above the opposites, standing to them in a thing-property relationship, but is the same thing as one of the opposites under a different description. This account leaves the scientist, the student of nature in the strict sense, with a world the variety and structure of which is subject to no metaphysical limitations.

In the second half of the chapter, then, 193^a9-^b21, Aristotle opens the question whether of the two internal factors distinguished in *Phys.* I, matter and form, both or only one can be the nature of a thing, the internal source of its behaviour. Often it is the matter, what the thing is made of, which is the source of behaviour to be explained. When we say that the stone falls because it is a stone, we mean that it falls because it is made of stone (i.e. for Aristotle, a kind of earth). In 192^b19-20 Aristotle noted that an artefact like a bed has an internal source of behaviour, though not *qua* bed but *qua* wooden; this will be a material source: it is natural for a bed to catch fire inasmuch as it is made of wood. In 193^a9-28 Aristotle presents the case of those who hold that the source of natural behaviour is always and only the matter. If they are right, then that living things grow with the features they do can be explained by and only by the action of external things on their matter in accordance with the nature of their matter. Aristotle argues against this possibility formally in chapter 8, but here offers some general, what he might call logical, considerations, which suggest that the form of a thing too may have a claim to the title of nature.

First, the word 'nature' and its cognates is used in the same manner as the word 'art' (193^a31-3). We speak of art, not when something could be made into a bed or the like, but when it actually is a bed, has the form of a bed; hence we should say that a thing has a nature, not when it could become flesh or bone or the like, but when it actually is flesh, has the form we give when we say what flesh is (733^b3. Or, perhaps better, a thing has a nature, not under the description, e.g. 'earth', 'fire', under which it is flesh in possibility, but under the description under which it has the form we give, etc.). We might object that what is flesh in possibility, sc. earth or fire, is still something natural; but Aristotle is claiming that there is a use of the word 'natural' parallel to that of 'artificial', and earth or fire would not be natural in this sense (except insofar as it is a *terminus ad quem* of a natural change, and hence a sort of form). As for the idea of artefacts having art in them or being art, we do talk in this way—'There's art for you', we say. 'A lot of art's gone into that'—and according to Aristotle we are not wrong to do so. Art, he holds (e.g. *De part. an.* I 640^a31-2), is the account of, or prescription for, the work of art, without the matter. That is, art, like nature, is always the art of something definite, the art of making a table or restoring men to health or the like, and is, in fact, the form which the artist has in mind, or intends, for the material, the pieces of wood or the patient's body. While he has it in mind only, it is only a possible form; it is realized in the material when the work is finished, and thus actually exists only as what the material constitutes. (Cf. *Met. Z* 1032^b5-14.)

Further, if the form of a thing is its nature, it has a better claim to be called its nature than the matter, since an actual x has a better

claim to be called an x than a possible one (193^b6-8). By the matter here Aristotle again probably means less (e.g.) the seed in the case of a man than the flesh and bone: if what this constitutes is the nature, then being what it constitutes only in possibility, it is the nature only in possibility (cf. the similar point about the term 'reality' in *Met. H* 1042^b9-10).

Again, Antipho's argument of 193^a12-17 that the matter must be the nature because beds give birth to wood, not beds, tells equally on the other side. If the nature of a thing is that element in it which is like what it gives birth to, the nature of a man will be a man, i.e. what the flesh and bone constitute (193^b8-12).

Finally, (193^b12-18) Aristotle offers an obscure argument based on the Greek word for nature, *physis*. He might be taking it as a possible word for birth; it is so used by Empedocles, DK 31 B 8. In that case his point is that *physis* in the sense in which it is used for a process, i.e. in the sense of birth, is *physis* of the form, e.g. a man, not of the matter, e.g. menes. Alternatively, as most commentators suppose, he is making play with the fact that *physis* comes from a verb which in the passive means 'to be born' or 'to grow' (cf. the Latin *natura*). Suggesting, then, that *physis* might be used for a process, sc. growth (or perhaps simply—the text is ambiguous—for coming to be), he says that nature ought to be what this process is a process towards, not what it is a process from, and what it is a process towards is the form. Exactly why the process should not proceed from nature, as doctoring proceeds from knowledge of medicine, is unclear; however, in *Phys.* V 224^b7-8 Aristotle says that changes are named after what they are changes to, rather what they are changes from, and it is certainly true that a growth is what grows is into, not what growth is out of (if a man does not shave, hair grows out of his chin into a beard, and we call the beard a growth, not the chin). Again, we rather say that seeds are seeds of what they grow into (cf. *De part. an.* I 641^a33-6) than that trees are trees of what they grow out of.

Wieland has emphasized that according to Aristotle the nature of a thing is only a source of its behaviour, not the source. This is perhaps the right time to consider just how far Aristotle thinks that internal sources are responsible for behaviour.

It is a central thesis of *Phys.* VIII that nothing changes itself, that whatever is subject to change is changed by something else. Aristotle argues this separately for kinds of stuff like earth and fire and for living things; this is not only because he thinks that different accounts are needed for the downward movements of stones, etc., and the appetitive movements of animals, but also because he thinks that the former originate from matter and the latter from form, and matter and form are in his opinion sources of change in different ways.

musicians are pale—for the example and the point that the cause must be the matter see *Met. E* 1027^a11–15—there is nothing in pallor to suggest knowledge of music or vice versa, so we must find something to which they both belong, and our argument might run: pallor belongs to all Yankees, and knowledge of music to some. Yankee stands as underlying thing to pallor and knowledge of music, and explains their concurrence.

On this showing, different causes function as middle terms in different syllogistic figures, and different syllogistic figures are suitable for proving different sorts of proposition. The first figure is the one for proving propositions in mathematics (*An. pr.* I 79^a18–19), and if, as I suggest, the formal cause is intermediate in the first figure, we have here the reason why formal factors are responsible for mathematical facts (198^a16–17). The second figure is suitable for proving that some action or inaction ought not to belong (moral prohibitions), and here the final cause functions as intermediate. The third is suitable for showing that something belongs to something by virtue of concurrence, and in it the material cause functions as intermediate. Aristotle does not develop the doctrine of the four causes in this way, but it is one way in which it might be developed.

CHAPTER 8

Aristotle says in 198^b10–12 that he will first give reasons for holding that nature is a cause for something, and then discuss the role of necessity in natural things. The former task is tackled in chapter 8, and the latter in chapter 9.

Chapter 8 is one of the most controversial in Aristotle. The general verdict since the Renaissance has been that Aristotle's use of final causes to explain natural processes is a disastrous mistake. Wieland, on the other hand, argues that Aristotle's teleology is completely innocuous, since it is 'als ob' in character and the notion of an end is a mere 'concept of reflection' to which nothing need correspond in *verum natura* (pp. 261, 271, etc.). The general view seems to rest on a misunderstanding of the thesis that nature is a cause for something. Aristotle nowhere maintains that everything which is due to nature is for an end; on the contrary, as we have seen, he holds that things which are due to nature in the sense of matter are not for anything, but are just necessary unconditionally. What he maintains is that *some of the things* which are due to nature are for something. This is the sense of the cautious remark that 'the "for something" is present in things which are and come to be due to nature' (199^a7–8, cf. 30, ^b19, 200^a8). The things due to nature which Aristotle holds are for something are in fact the organic parts and the

natural or unconstrained changes in respect of size, shape, place, etc., of plants and animals, and not even all of these: eyes, for instance, are for something, but they may not be blue for anything (*De gen. an.* V 778^a30–^b1, ^b16–19). (The whole plant or animal also comes to be and is due to nature, but this, as the 'natural form', is not so much for something as 'what the other things are for'.)

Whilst, however, it is a mistake to suppose that Aristotle's account of nature is teleological throughout, it is also wrong to suppose that where Aristotle thinks teleological explanation appropriate, he is not committed to holding that there is a basis for it in *re*. The thesis that some changes undergone by plants and animals are for something, is, as we have seen, and as Aristotle himself says in 199^a30–2 (for a discussion of which see textual note ad loc.), equivalent to the thesis that they are due to nature in the sense of form, and the form of a thing is for Aristotle very much of a reality—is, indeed, what has the best claim to the title of 'reality'. If we ourselves shrink from saying that dispositions like a craftsman's skill are mere concepts of reflection to which nothing corresponds in the craftsman, Aristotle would resist even more strongly a similar suggestion about nature as form.

In assessing Aristotle's teleological thesis, we may do well to consider the background to it. It appears from Plato's *Lysis* (X 88b) that the current orthodoxy was something like this. Fire, water, earth, and air are natural, and move by necessity with their own characteristic movements; and all natural things like metals, stones, plants, and animals are due to their chance encounters and combinations. Such is the realm of nature; contrasted with it is the realm of art and mind, which is of comparatively recent emergence and very limited extent. Plato himself finds this picture inadequate, but is unable to liberate himself completely from the nature-art antithesis. In the *Timaeus* he represents some things as due to mind, others to necessity. It is notoriously unclear whether he thinks the works of mind were in fact effected by a personal demiurge, or (as Aristotle tends to interpret him) in some way by 'separate' forms and numbers themselves; but in general, the alternatives as Plato sees them are: things are due either to necessity, chance, and the natural movements of elements, or to mind, thought, reason. Perhaps many today would agree that this exhausts the possibilities; Aristotle, however, is trying to advocate a third: that living things have a source of change internal to them, which is distinct on the one hand from the nature of their matter and on the other from mind and skill. He replaces the antithesis of matter and mind with the antithesis of matter and form. He begins with a lively sketch of the orthodox view, as held by Empedocles (198^b16–32). This, though Aristotle gives it short shrift (79d), is often regarded as a brilliant anticipation of Darwin's theory of the evolution of species by natural selection (so Ross, *Aristotle*², p. 78).

not to its death, we shall still have a basis only for an 'als ob' teleology: processes will only be such as might be due to nature. Wieland welcomes this consequence, since he thinks that Aristotle's teleology is actually of this character; but apart from the fact that this in general seems untrue, Aristotle would have no grounds for restricting teleological explanation to living things. The full moon would be what its phases are for; or, still clearer, being at the centre of the universe would be what earth or its movement is for.

The second line of argument, then, seems as inconclusive as the first. The third appears in 199^a12-^b7, 26-33, and is that if that which is in accordance with art is for something, so is that which is in accordance with nature (17-18, cf. 20).

Aristotle clearly does not anticipate any dispute that things in accordance with art, i.e. artefacts and the movements of craftsmen, doctors, etc., are for something. In fact, however, a rigid upholder of mechanical determinism would deny this: he would say that the cobbler's hands move as they do, because of the forces to which the particles constituting his body are subject, and it is just by chance that there comes into being something such as to fit and protect a man's foot; human actions are analysable without remainder into the movements of particles in accordance with laws of physics. Although Aristotle does not offer us a counter to this suggestion, one might be derived from the consideration mentioned above, pp. 106-7, that we should perhaps never be able to notice anything, whether it is in fact for something or not, unless it seemed such as to be for something. If this is so, and we pick out and bring under a concept a pebble because it would do as a marble, a mountain because it would be good to ski down or hard to walk over, and so on, is it not necessary that we should sometimes make movements for a game of marbles, or skiing, or reaching a destination? Could a saw be noted as well adapted for cutting wood, if we never used it for cutting wood, but only observed that when it moves in a certain way, wood is divided—especially if we were never able to use the pieces thus separated for anything? An infant, perhaps, does start by noticing that a movement on the part of an object is followed by a glint or bang; but it is doubtful how far its intellectual development would proceed if it was not capable of repeating the movement for the sake of seeing the glint or hearing the bang. And if the movements of human beings are sometimes for something, 'the for something' is a cause of the things that result from these movements. Along these lines, then, it could be argued that that which is in accordance with art is for something. This argument, however (and the cruder one that we know by introspection that our actions are purposive), is not applicable to the processes of nature; can Aristotle show that they are still so like the processes of art that they too must be called for something? He offers several considerations.

In 199^a15-17 he says that the practice of art is merely a continuation (e.g. medicine, agriculture) or copy (e.g. painting, choreography) of the action of nature, so if the former is for something, so should be the latter. Similarly in 33-^b7 he points out that mistakes occur in the practice of art, and monsters can be explained as analogous. These considerations, I think, carry little appreciable weight.

In 199^b20-30, Aristotle says that swallows and spiders do not act from knowledge or deliberation, but their movements when they make nests and webs are surely for something. If you say that nothing is for something unless it is done from deliberation, then you exclude much that is the exercise of art (199^b28); thus a man exercising the art of the scribe does not deliberate how to spell (*E.M.* III 1112^b). And if the movements of spiders and swallows are sometimes for something, why not say that the roots of plants grow downward, not because they are made of a certain sort of stuff, i.e. earth, which necessarily moves downwards (*De an.* II 415^b29-416^a1) but for nutrition (199^a28-9)? To this it might be answered that we say the movements of swallows are for something because they seem to be directed by thought or at least perception, and deny that the behaviour of plants is for anything in so far as we deny to plants any kind of awareness.

In 199^a12-15 there is the curious argument that if artefacts were natural objects, and conversely if natural objects were artefacts, they would come to be in just the way they do now. This argument seems to be continuous with the argument of 28-12 discussed above, about changes being for the ends to which they lead, and hence is usually taken to be: if a house were a natural object its parts would be formed in the same temporal order in which they are formed now, first the foundations, then the walls, etc.; and conversely, if a man were an artefact, his parts would be formed in the same order in which they are now, first the heart and so on. Aristotle is certainly interested in the order in which the parts of living things are formed (see *De gen. an.* II 742^a16-^b17), and the usual interpretation may well be correct. If, however, we consider the *De gen. an.* II passage carefully, we may feel that Aristotle would not have thought that a house or ship would develop by nature precisely as it develops at the hands of the builder or shipwright (Empedocles with his neckless heads might think that, but Aristotle would more likely expect a house to grow like a mushroom, a ship to be hatched out of an egg); and that he is concerned rather with logical priority and posteriority and the subordination of means to ends (compare 199^a15 with 742^b7-8). In that case, his point will be that the roof would not be any less for protection or the rudder for steering if the house or ship were due to nature; and conversely the fins of a fish would not be any more for propelling it through the water if a fish were an artefact. The later passage in which he returns to the idea of nature producing

in geometry the factor which necessitates, the definition of a straight line, is the starting-point. This is best regarded as mere architectonic. In general (e.g. *De gen. an.* II 734^a30-1) Aristotle thinks that nature in the sense of form must come first.

Second, it is suggested in 200^b4-8 that there are parts of the account which stand to it as matter. Elsewhere Aristotle suggests that in a definition by genus and differentia, the genus stands to the differentia as matter to form (*Met. Z* 1038^a6-8), but what he probably has in mind here is that natural things are like snubness (see above, pp. 95-6): the matter must enter into the account of a living thing or organic part, and play the role there which noses play in the account of snubness.

APPENDIX

Did Aristotle Believe in Prime Matter?

In the commentary I express scepticism about the traditional view that Aristotle believed there is a single, eternal, and completely indeterminate substratum to all physical change, called prime matter. Some remarks by Zeller in his *Aristotle* will illustrate this view: 'Becoming in general . . . presupposes a substratum whose essence it is to be pure possibility (p. 342) . . . presupposes some Being . . . which underlies as their subject the changing properties and conditions, and maintains itself in them (p. 344) . . . This substratum cannot itself ever have a commencement; and since everything which perishes resolves itself finally into the same substratum, it is imperishable also (p. 345) . . . If we abstract entirely from everything which is a product of becoming . . . then we shall have pure Matter without any determination by Form. This will be that which is nothing, but can become everything—the Subject, namely, or substratum to which no one of all the thinkable predicates belongs, but which precisely on that account is receptive of them all. . . . This pure matter . . . Aristotle calls $\pi\rho\omega\tau\eta\ \psi\acute{\alpha}\nu\eta$ ["prime matter"]' (pp. 247-8). I here append reasons for rejecting this account of Aristotle's teaching, and also some suggestions about how it arose.

(1) We may start with the phrase *πρωτὴ ἡμῶν*, 'primary matter', itself. By this is traditionally understood the *ultimate* substratum of change. Now this expression does occur, though not often, in Aristotle. Bonitz lists the following places: *Phys.* II 193^a29, *De gen. an.* I 729^a32, *Met. A* 1015^a7-10, *H* 1044^a23, @ 1049^a24-7. To this we may add *Met. A* 1014^b32, 1017^a5-6, and (passages where Aristotle speaks of a *πρωτὴ ὑποκείμενον* or *εμπόριον*, 'primary underlying thing' or 'constituent') *Phys.* I 192^a31, II 193^a10.

In 193^a10, 193^a29, 1014^b32, and (cf. 1016^a19-24) 1017^a5, primary clearly means 'proximate'. Similarly, I think (see above, p. 83) in 192^a31.