

n.1. Having discussed in a dialectical way how many are the principles involved in becoming, we have come to the conclusion that they are at least two, but not more than three. We must now try to establish the truth: Just how many are they?

First we will show that in all natural becoming three things are involved. (In the next lesson we will go on to show that the principles of absolute becoming are three.)

n.2 To make the first point we must begin by considering becoming, in a very general way, ~~that will apply to~~ applying to every kind of change. For in every change there is ~~something~~ something that becomes, such as that which from white changes to black, from white <sup>it</sup> / becomes non white, and from non white it becomes white; and so it is in other changes. ~~Now the reason~~

Now the reason ~~why~~ we follow this order from the more general to the less general is that the more general, ~~though~~ while more confused, is also more known to us.

n.3. First, ~~we~~ <sup>be</sup> must establish certain things which are required to manifest what we intend. ~~to manifest~~. The first of these is a division; secondly, we must bring out the differences between the parts of this division.

n.4. First, in ~~every becoming~~ all becoming, either one <sup>is said to</sup> thing becomes from another thing, which is the case in absolute becoming; or, ~~from~~ from being ~~this~~ so and so, a thing becomes other, as in the case of <sup>what</sup> ~~a thing~~ becoming, not absolutely, but as to something. An instance of the first would be ~~the becoming of Socrates from seed, or the oak tree from the acorn; of the other, Socrates who, in anger, turns pale; or the oak tree turning colour.~~ Socrates, who becomes from seed, or the oak tree from the acorn; of the other, Socrates who, in anger, turns pale; or the oak tree turning colour.

From this it is plain that all change has two terms. Now these terms we can express in two ~~ways~~ different ways: either

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as simple, or as ~~complex~~ composite. (We are of course referring <sup>primarily</sup> to our way of speaking, which, as we shall see, has some foundation in the things expressed. This does not mean that from our way of speaking about things, which reflects our knowledge of them, we conclude to the things themselves. A definition is something complex, while its definitum can be simple, such as the unit, or the point. <sup>Whatever</sup> ~~What~~/the foundation of our way of speaking of the terms of becoming, now as simple, now as composite, it will have to <sup>be</sup> brought out in the course of the argument, by way of induction, ~~so to speak~~.)

We express the terms of becoming ~~as simple~~ as simple when we say, for instance, that a 'A man becomes literate.' The ~~same~~ occurs when we say 'The illiterate becomes literate.' (But we would still be expressing the terms as simple if, instead of 'illiterate' we used 'non literate,' for, though grammatically complex, 'non literate' still signifies the term as simple, seeing that the 'non literate' is not a man on the one hand, and a 'non literate man' on the other: it is the same individual who is both a man and non literate.)

That was a first way of speaking. But the terms are ~~even~~ severally complex when we say 'The illiterate man becomes a literate man.' In other words, when becoming is attributed to man or to illiterate, each term is simple, so that that which becomes, ~~is~~ namely that to which becoming is attributed, is signified, with regard to becoming, as simple; while that at which the becoming terminates, and which is said to become qua simple, is 'literate;' as when we said 'A man becomes literate,' or 'The illiterate becomes literate.'

But, ~~when~~ whereas in the case of 'An illiterate man becomes a literate man,' both terms were expressed as composite, only one of the terms would be composite, and the other, simple, if we

said 'The illiterate man becomes literate,' <sup>in other words,</sup> that to which the becoming is attributed would be expressed as a composite term, namely, 'The illiterate man,' whereas that which he or that at which the becoming terminates, becomes, namely 'literate,' is a simple term.

5. Now we must bring out the differences between the foregoing ways of speaking.

The first difference is that in some of the preceding cases we use both ways of speaking, namely that 'this becomes that,' and 'from this becomes that.' For we say that 'The illiterate becomes literate,' and ~~the~~ that 'From the illiterate becomes the ~~the~~ literate.' But we do not use this way of speaking in all cases; we do not say 'From a man he becomes literate.' What we do say is that 'A man becomes ~~the~~ literate.'

The second difference is that when we attribute becoming to terms that are both composite, namely to the subject and to its opposite, one of these terms is permanent and the other is not. For when someone has become literate, he remains a man, but the opposite of literate does not remain. And it does not matter whether the opposite be ~~a~~ purely negative, as when we say 'non literate,' or whether it be something privative or contrary, such as 'illiterate.' Note, further, that neither does the composite of subject and the opposite remain: for ~~the composite~~ <sup>the composite</sup> 'illiterate man' does not remain once the man has become literate. All the same, becoming was attributed to all three of these terms, for we said that 'A man becomes literate,' that 'The illiterate becomes literate,' and that 'The illiterate man becomes literate.' Now, of these three terms, only the first, namely man, remains when the becoming is completed, whereas the other two do not.

6. We are now ready to show that in all natural becoming

three things are to<sup>be</sup>/found. It is obvious that in becoming there is always something that becomes. As to the other two terms, you will notice that in ~~every natural becoming~~ all things that become according to nature there is always something subjected, to which the becoming is attributed. Now this term, although ~~it is~~ one in number ~~and~~ or ~~same~~ subject, <sup>identical</sup> ~~it~~ is not/~~the~~ ~~same~~ in kind or notion. For when we attribute 'to become. literate' to a man, the man is one in subject, but twofold in notion: the notion of 'man' and the notion of 'illiterate' are not the same notion.

8. Now we must make ~~our~~ point concerning the things themselves, <sup>and verify, as it were,</sup> ~~our point about~~ our way of speaking about them. For the latter has so far been no more than an indication.

It remains to be shown that the real subject to which becoming belongs is twofold in notion. This can be <sup>proved</sup> ~~shown~~ in two ways. First by the fact that ~~the~~ in the very subject to which becoming is attributed, there is something which remains and something that does not remain; for that which is not opposed to the term of becoming, remains, such as the man who becomes ~~that~~ <sup>his</sup> ~~the~~ <sup>illiterate</sup> ~~illiterate~~ <sup>ce</sup> does not remain, nor does the composite of man and illiterate. Hence it is plain that man and illiterate are not the same in notion, since the one remains and the other does not.

The same point can be made in another way. ~~Things~~ ~~that do not remain~~ For in speaking of non permanent things (such as the op. or the con. of sub. for op. or con.) we say, ~~rather~~ ~~that~~ 'from this becomes that,' rather than 'this becomes that.' (Although we might say the latter, but not as strictly as the former.) Thus we say that 'From the illiterate becomes the literate.' We also say 'The illiterate becomes literate;' but this is per accidens, namely inasmuch as that which happens

to be illiterate becomes literate. (The meaning of 'per accidens' in the present context will be made plain later, in the following lesson.)

*(as a man becoming skilled.)*

But we do not speak in the same way about permanent things, ~~such~~ <sup>as</sup>. We do not say, for instance, that 'from a man he became literate,' but that 'the man became literate.' Nonetheless, even when speaking of permanent things, we do at times say 'from this becomes that,' as when we say that 'the statue <sup>comes</sup> ~~is made~~ from bronze,' or 'from bronze became the statue.' And the reason is that the name 'bronze' is here taken to mean the shapeless, namely the lack of shape <sup>in the bronze</sup> as compared to the figure of the statue. And we speak in this way because of the privation we have in mind. But ~~when~~ though we say 'from this becomes that' even about permanent things, both 'from this becomes that' and 'this becomes that' are more usual in the case of non permanent things--whether the non permanent ~~xxx~~ be the mere opposite or the composite of opposite and <sup>its</sup> subject. Notice now that this way of speaking about the subject and the opposite term does in fact show that the subject and the opposite, such as man and illiterate, though one in subject, are yet twofold in notion.

10. Now it remains to be shown that in all natural becoming there must be a subject. Here <sup>this is to be done by</sup> ~~it is to be shown by~~ way of induction, that is, by pointing to cases which warrant generalisation. First we show it on the part of the things that become; then <sup>we turn to</sup> ~~from~~ the various ways in which things become.

First, then, we should note that the word 'becoming' has many meanings. <sup>that is an analogous term, i.e. equivocal by design.</sup> Thus, 'to become' absolutely is said of substances, such <sup>of</sup> as Socrates, or <sup>if</sup> this oak tree. But a thing can also become 'as to something,' namely as to something that inheres in the substance, as when a thing <sup>if</sup> changes size or colour. These two

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*, and the analogical character of the word that names them,*

kinds of coming to be, can be made plain in the following way. 'To become' implies a beginning in being. ('Being' here means existence, which is to be found only in singular things, that is, in individuals.) Now, if a thing is to become absolutely, this requires that it should not have existed absolutely before it became, which is the case of things that become substantially. For when a man becomes, not only was he not a man before he became one, but it is also ~~xxx~~ absolutely true to say that he was not. But when a man becomes white, it is not true to say that he <sup>himself</sup> was not, before becoming white, but that <sup>before</sup> he was not ~~xxxxxxx~~ such or such, e.g. white, tall, or ~~xxxxxx~~ a father.

Now in those things which become 'as to something,' i.e. as to something accidental, it is plain that they require a subject. For no accidents, such as quantity, quality, and so forth, of which there is becoming 'as to something,' cannot be without a subject; for only substance is not in a subject. (As we know sufficiently from the logical definition of substance in the Categories.) And now we come to a capital point: If we consider the matter carefully, it becomes plain that even in the case of substances, they ~~become, from xxxxxxxx~~ or arise, from a subject: for we observe that plants and animals come from seed. Here is the induction as regards absolute becoming. (Notice, however, that this subject known by induction, such as seed, is not the permanent subject, for the acorn disappears as the oak becomes. If there is to be a permanent subject in absolute becoming, it will not be of this kind at all.)

11. Now we must go on to consider inductively the various or modes ways/in which things become. Some things become by way of transfiguration, in the way a statue comes from bronze: for the statue becomes when the bronze acquires this new kind of figure.

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Other things become by way of apposition, as in things that increase, in the way a river comes from ~~that~~<sup>many</sup> streams or brooks. Still other things come to be by way of 'abstraction' (keep in mind the etymology of this term: ab+trahere), such as the image of Mercury, which is produced by hewing away stone from stone. Then, some things become by composition, such as a house. Others, again, by alteration, i.e. change of quality, whether according to nature, as when an animal grows old, or according to art, as in cooking. Now in all these cases it is plain that whatever becomes <sup>does</sup> come from a subject.

We must note however that nearly all the cases considered in this induction of the modes of becoming, are of artificial things; and even those that are natural, such as the formation of a river, are not strikingly substantial. But in doing so, Aristotle may have had in mind the ancient philosophers who ~~even~~ conceived of natural things in the mode of artificial ones, as will be shown in Book II. <sup>Again,</sup> It may well be that the Philosopher here does no more than provide us with those terms of analogies that are more known to us. For instance, to transfiguration we could compare transformation in the order of substance; to apposition, the elements of nutrition; to abstraction, generation and corruption; to composition, the <sup>gathering of the material,</sup> ~~composition~~ that goes into the making of a man, such as molecules, cells, etc. Aristotle frequently proceeds in this way, assuming that the application is too obvious to be mentioned.

12. It should now be plain that that to which we attribute becoming is always something composite. And since in all production or becoming there is that at which the becoming terminates, and that to which the becoming is attributed--~~namely~~ <sup>as</sup> the latter is twofold, namely, the subject, such <sup>as</sup> a man, and the opposite, such as illiteracy--it is plain that in every becoming three

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things are involved: (a) the subject, (b) the term of the becoming, ~~xxx~~ and (c) the opposite of this term; as when a man becomes literate, the opposite is 'illiterate,' the subject is 'man,' and 'literate' is the term of the becoming. In a similar way, shapelessness, informity, and disorder are the opposites of shape, form, and order; but bronze, gold, and stones are subjects in artificial things.



Phys.I,lect.13.

1  $\mu$ . Having shown that there are three things involved in all natural becoming, it remains to be shown how many are the principles of nature, and what they are. Notice that so far we have not qualified the 'three things involved' as principles. Besides, we have done no more than ~~we~~ establish the terms of a <sup>known</sup> proportion ~~that is to say~~ such as 'bronze,' ~~that is to say~~ 'shapeless,' and 'shape' or form.

The first thing to be pointed out now is that there are two per se principles of nature. (Just what does the word ~~that is to say~~ nature 'nature' mean, in this context? For it is to be noted that ~~this~~ <sup>nature</sup> ~~term~~ will not be defined until the beginning of Book II. Meantime, we currently use the word 'nature,' and distinguish ~~that is to say~~ <sup>nature from art,</sup> ~~even~~ as we distinguish eyes as being from nature, and spectacles from art. All the names and their corresponding notions become gradually more determinate and distinct. )/The third is a principle per accidens. Secondly we will show that

Regarding the first point to be made: ~~Those things~~ We call those things ~~that are~~/principles and causes of natural things (such as horses, trees, etc.), ~~from which~~ of which these are made up or from which they become per se, and not per accidens. Now, as we have seen, whatever becomes, is and becomes from a ~~form~~ subject and a form. Hence it is that subject and form are per se causes and principles of whatever becomes according to nature.

n. 2. There are two per se principles of nature.

19. Those things are the principles and causes of natural things, which are such that they are that of which the natural things are constituted and from which these become per se and not per accidens.

[For instance, the green leaf is a composite of "leaf" and "green;" and when this ~~leaf~~ leaf turns red, ~~this~~ composite, namely of "leaf" and "red", becomes, and then is a "red leaf."]

m. Now, everything that becomes, <sup>constituted of,</sup> is and becomes ~~from~~ from a subject and a form.

Therefore, the subject and the form [whichever these may be] are per se causes and principles of whatever becomes according to nature.

Ad minorem.

(19.) Those things into which the definition of a thing is resolved are the components of the thing, for a thing is resolved into those things ~~into which it is resolved~~ of which it is composed.

(m.) But the very notion of that which becomes according to nature [e.g., a green leaf that becomes red] is resolved into a subject and a form [leaf, the subject, and 'green' or 'red', the form]: just as the notion of 'musical man' is resolved into the notion of man and the notion of musical — for if one wanted to define 'musical man' one would have to define both man and musical; he would have to provide two definitions.

(c.) Therefore, that which becomes according to nature, ~~is~~ <sup>constituted of</sup> a subject and form and becomes from a subject and a form. [E.g., the 'green leaf' is resolved into 'leaf' and 'green'; or the green leaf that becomes red is resolved into 'leaf' and 'red'.]  
[Notice that these, namely subject and form, are not only principles of becoming, but also of being.]

Not true of definition of a simple quid.

homo musicus:  
duplex definitio

n. 3. There is a third principle of nature, but this is a per accidens principle.

The subject, as distinguished from the form [e.g. the leaf as distinguished from its actual color, namely 'green'], though one in number, is two in kind and notion, as was shown.

For a man, or a piece of gold, or any such material thing, has a number: for in such a subject we may consider that which is positive in it, and from which something becomes per se and not per accidens, such as 'man' or 'gold'; and we may also consider something that occurs to it, such as, in the case of man, to be unskilled, or, in the case of gold, to be shapeless - and these are privations. [In the case of the ~~non-red~~ leaf, leaf is positive, 'non-red' is privative.]

There is, of course, a third principle besides the two just mentioned, namely the form, in the way that the arrangement of a house is its form, or music the form of the musical man, or skill the form of the craftsman, or any other thing that is predicated in this way. [Notice that what is here called 'third' is not that which is referred to in the title we gave to this number, for the 'third principle' in this title is not form, but privation.]

And so the form and the subject are the per se principles of that which becomes according to nature; whereas privation, or the opposite contrary, is a principle per accidens inasmuch as it is something which occurs to the subject. This may be likened to the way we say that the builder is per se the ~~active~~ agent cause of the house, whereas the musician is per accidens the agent cause of the cause; that is, insofar as the builder happens to be a musician. And in this way the subject 'man' is the per se cause of 'musical man'; whereas 'non-musical' is ~~the~~ per accidens the cause and principle of 'musical man' - for 'musical man' came from 'non-musical man.'

n. 4. Privation is per accidens a principle not only of becoming but also of being.

Someone might object that no privation occurs to a subject when this subject is the subject of a form. For instance, the 'green leaf' is not the subject of the privation of ~~red~~ 'green'.

Reply: this is true. But while it is green, ~~the~~ the leaf is subject to the privation of red.

[This number is difficult to interpret, as one can see from the fact that a red leaf can no longer become green. St. Thomas's argument requires a lengthy and involved explanation to show its true validity.]

Briefly, however, the point St. Thomas wishes to make is that the privation itself is not an aptitude to a form or an inchoate form. And this he shows by the example of the musical man who, now being musical, is no longer non-musical, that is, he is <sup>now</sup> deprived of the privation 'non-musical'. Now, the privation of a privation is plainly not an aptitude to some form.

n. 5. From the truth that there are two per se principles of becoming, and a third per accidens, all the preceding difficulties can be resolved.

(a) We conclude, from the foregoing, that in one sense we must say that there are two principles, namely when we take per se principles; and that, in another sense, there are three <sup>principles</sup>, namely when we take the per accidens principle along with the two that are per se principles.

(b) We can now see in what way the principles in question are contraries, and also in what way they are not contraries. For instance, musical and non-musical are contraries, and so are warm and cold, consonant and dissonant. But these would not be contraries

if we considered them without their subject. And the reason for this particular point is the general principle that ~~two~~ a contrary cannot affect its opposite <sup>except</sup> by reason of their common subject. I mean that sickness, for example, expels health from the same subject. But if sickness were in one subject, e.g. Socrates, and health in another subject, e.g. Plato, they would not be contraries in this regard. While contraries concern the same subject, such as health and sickness in Socrates, they cannot be together in the same subject at the same time: the presence of one contrary excludes the presence of the other from the same subject - but not from another subject, for the sickness of Socrates does not exclude health from Plato.

~~Here we conclude that, in this particular respect, the number of principles is not greater than the number of principles which are contraries. But, <sup>the solution is that,</sup> only two principles, ~~are per se principles. Nevertheless,~~ the principles are not entirely just two, because one of these two is in fact also something else, since the subject is twofold in notion, as we have seen. In other words, since one of the two per se principles, ~~is~~ <sup>namely the</sup> one that is the subject, is in its turn twofold, there are, then, in this sense, three principles. - Hence we can see how the ~~two~~ arguments in favour of two principles, and those in favour of three, were relatively true, but not entirely so.~~

man and non-musical, as bronze and shapeliness, differ in notion.

We now conclude that, in this particular regard, the number of principles is not greater than those which we called contraries or contrary principles. But, on the other hand, we saw that there are only two principles which are per se principles, namely the subject and the form. However, these two principles are not in all respects just two, seeing that one of them, namely the subject, is in fact also something else; for, in the case of non-musical man, 'man', which is something positive, and which is one notion, and 'non-musical', which is something privative, and which is another notion, we have to do with an identical subject which is nonetheless twofold in notion. And the same is true of 'bronze' and 'shapeless': the bronze is something positive, whereas its shapelessness refers, as a privation, to the orderly shape of the statue, which may be imposed upon the bronze or into which the shapeless bronze may be cast.

In other words, since one of the two per se principles, namely the subject, is in its turn twofold, that is, in notion, there are, then, in this sense, three principles: two per se, and one per accidens.

And now we can see how the arguments in favor of opposite positions concerning the number of principles--now leading to two, now to three--were relatively true, but not entirely true.

n.6. Now to show in what sense two contrary principles are needed, and in what sense not.

It is plain, from the foregoing ~~xxxxxx~~, how many the principles of the generation of natural things are, and in what sense they are that many. For it was shown that there must be two contraries, one of which is per se a principle, <sup>namely form, and</sup> the other, per accidens, namely privation. We have also seen that something underlies these contraries, and that this underlying principle or subject is ~~x~~ per se a principle. But there is a way in which one of the contraries is not necessary to generation; for it is enough that one of the contraries should bring about the change, now by its absence, and now by its presence. For instance, in the case of non-musical man becoming musical man, non-musical is excluded by musical, so that in this respect non-musical brings about the change to musical by its ~~absence~~ becoming absent, and finally it is absent; whereas musical brings about the change by its becoming ~~present~~ present in the man, and finally it is present.

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when Socrates from pale becomes red; and of absolute becoming, as when something becomes a man from non-man. For even though here too there is a subject, as we shall see presently, it is not a subject just as Socrates is the subject of paleness or redness. For if this were the case, there would be no substantial becoming: Socrates would be something of something else as his color or size are something of Socrates. And so it is that in every change there is a subject, a form, and a privation (e.g. Socrates, red, and non-red--I say non-red, for pale is not the privation; pale is a form); but there is not in every change a subject and two contraries. In other words, there can be no opposition of contrariety between substances. For there is no subject prior to substance, seeing that substance is what is in itself and not in another. (As we shall see, there is a subject which can be within the substance as part of it, but the substance itself cannot be in something else that is no part of the substance.)

But suppose that ~~an animate being is generated from an inanimate one~~ an animate being is generated from an inanimate one. Now, animate and inanimate are contraries, and I mean that inanimate is not just a privation of animate, just as irrational is not just a privation of rational, for a horse, say, is not a man minus reason. The answer is that while substances cannot be contraries, ~~but~~ the specific differences, which are not the substances, but which are something of the substances, namely by which ~~they~~ these differ one from the other in species of kind, these specific differences have an opposition of contrariety between them.



n.9. If in every becoming there is a subject, and if absolute becoming (which was distinguished from becoming as to something, in the previous lesson) is indeed a becoming, then here too there must be a subject. Before going on we must recall that when ~~xxxxxxxx~~ an oak-tree becomes, absolutely, it comes from an acorn, and the acorn came from another oak-tree. So there was something before the oak-tree became, and out of which it became. Neither the seed nor the tree came from nothing. So that there was a previous subject, namely another tree, or the seed.

Remember, now, that in becoming, the subject must be permanent, as when a non-musical man become a musical man. But seed, or the tree from which it came, are subjects in the way that a man is. <sup>, namely the seed or the tree from which it grew,</sup> So, if this subject remains, there is no absolute becoming. Hence the subject from which something becomes absolutely, cannot be of that kind. Yet, if the oak-tree comes from the seed, and if the seed is not the permanent subject, for the seed is corrupted, and <sup>nonetheless</sup> ~~yet~~ the tree does/come from the seed, there must be in the seed a subject that is not the seed itself, but something of the seed: a subject such that absolute becoming is still a true becoming.

Such a subject is neither a tree, nor a seed, nor a man, nor any determinate substance; if it were, there would be no absolute becoming. Still, we come to know it by reason of the tree, or the seed, or the man. In each of these there must be that by reason of which the oak-tree is an oak-tree, the acorn an acorn, the man a man. This we call the form, by reason of its proportion with shape by reason of which we distinguish acorn, oak-tree, and man, one from the other. Notice, now, the difference between the shape or form of the oak-tree or of the

acorn, which we can see or feel, and 'the form of the oak-tree' when 'form' is here extended to mean that by reason of which an oak-tree is an oak-tree and not a maple-tree or a horse. Form, in this extended sense, is neither seen nor felt. Yet it must be, and be that by reason of which these things differ in kind. But the subject of such forms, since it cannot be a 'this thing' like a tree or a man, for then there would be no absolute becoming, is such that it has no form of its own prior to the form by reason of which this subject, say a tree, or a man, is a tree, or a man. It is the subject of such forms, and these are in this subject without any of them being in this subject prior to any other form.

We have just seen that a subject such <sup>2</sup>as an oak-tree, or a man, are known by reason of their form (in the extended meaning of this term 'form'). But if the subject of ~~these~~ such forms has no form ~~otherwise~~ of its own other than these, it cannot be known in itself; it ~~can~~ be known only as the subject now of this form, now of that, but never without this or that form. And this is what Aristotle means when he says that the subject of absolute becoming, i.e. the permanent subject by reason of which it is a true becoming, and which St. Thomas here calls "prime matter", cannot be known by itself, "for whatever is known, is known by its form; whereas prime matter is taken as the subject of every form." In other words, there is no subject prior to it, for, if this were so, it would be either a complete substance, and so there would be no absolute becoming; or the subject would be in its turn the form of a prior subject, and so on ad infinitum, so that nothing would ever be itself, but always something of something else, as an accident. And every change would be like that of Socrates becoming red from pale.

But if prime matter is not knowable in itself, seeing that it has no form of its own apart from the form which it happens to have, how do we know it? We come to know it, Aristotle says, by proportion. Here is how St. Thomas explains this:

We see that the wood which now makes up a table, now a chair, is something distinct from the shape of the table and the shape of the chair, for now the wood has one shape or form and now another. Similarly, and this is where grasp a proportion, we observe that the thing which now is an acorn, then <sup>is</sup> an oak-tree; and so we are compelled to say that there is a subject which is now the subject of the form the acorn, and then the subject of the form of an oak-tree. This subject is therefore something apart from the form of the acorn and apart from the form of the oak-tree, in the way that the wood is something ~~apart~~ from the shape of a table and from the shape of a chair, although it does always have some shape or other. And so we come to understand that that which is to the natural substances, in the way that the wood is to the table or the bronze to the statue, and any form<sup>al</sup> material thing to a form, so is this first subject, which we call prime matter, with respect to substantial forms.

Now this subject or prime matter is one principle of nature. But we must be careful to point out that it is not something that is one in the manner of a this, as this tree or this man; that is, in the way of an individual that we can show to sense and grasp as this individual, say Socrates, as if prime matter actually had a form, and a unity all its own. So, when we call it 'being' or 'one', we name it this way only inasmuch as it is a potency to form. It is, proportionally, in potency to this or that substantial form in the way that the wood is in potency to the shape of a table or to the shape of a chair, a broomstick or of tooth-pick.

Besides this subject there is another principle

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of nature, namely form. This is also called "ratio", which means the same as "reason" as in "the reason why this is so-and-so. It does not here mean "reason" as in "the faculty of reason."

The final, third principle is privation, which is contrary to form, as St. Thomas says. In connection with this two things should be noted: (a) there is no opposition of contrariety between the subject and the privation, nor between the subject and the form, since the subject can be the subject of either; the opposition is between form and privation, which exclude one another from the same subject: thus blindness excludes sight and sight blindness. And so it is, proportionally, of substantial form and privation: a thing cannot have the form of <sup>an elephant</sup> ~~man~~ and the privation of this form <sup>non-elephant</sup> ~~man~~. ~~man, i.e., the form of man~~ (The form of ~~man~~ can be said of the form of a horse; but the form of the horse is not ~~an elephant~~ <sup>an elephant</sup>. the privation of the form of ~~man~~ The privation of the form of ~~man~~ an elephant is in the horse along with the form of the horse. The privation in the subject, prime matter, is therefore always the privation of a form other than <sup>of</sup> the one which is now in the subject.) (b) When we say that substantial form and substantial privation are contraries, we must not understand contrariety in the strict sense that was taken when we spoke of black and white, or hot and cold. They are contrary only in a broad sense of this term.

Now we know how many are the principles, and we know what they are, in the manner explained.

I In quodlibet fieri naturali tria invenimus.

1<sup>o</sup> de generatione et factum in communem ad omnes species mutationis: huiusmodi sunt

- In every change or becoming: e.g. from white to black,  
from white, to non-white  
from non-white to black

(a) Quaedam necessaria et propositum ostendendum:

1<sup>o</sup> "We say that one thing comes from another, and from being such to being other [in one way, & being in another way]" (1896.33)  
both in the case of simple and complex things."

All change implies two terms. But these terms can be expressed in two ways: either as simple or as complex.

E.g., sometimes we say "Man becomes musical". In this case the terms are simple: 'man' and 'musical'.

The case is the same when say 'not-musical' becomes musical' - for the negation does not divide, here.

(Nor is non-musical to be understood as an infinite name; but as a negation <sup>negatively</sup> within a genus, still, could otherwise, ~~but as a negation~~ <sup>cannot</sup> ~~be understood~~ <sup>be understood</sup> ~~as an infinite~~ <sup>as an infinite</sup> ~~name~~ <sup>name</sup>.)

But, both terms become severally complex when we say "the not-musical man becomes a musical man."

And one of the two is complex when we say "the not-musical man becomes musical."

[Importance of our way of speaking as a sign of what we know, and this of things.]

2<sup>o</sup> We use two ways of speaking of these things, but not both in every case: e.g. "this becomes so-and-so", and, "from this becomes that", or "from being not-musical comes to be musical." But not in all cases we do not say "from being a man he came to be musical," but only "the man became musical."

A further difference between the above-mentioned cases: When becoming is attributed to two simple terms, one of those terms remains, permanent, while the other does not. For the man who, from not-musical becomes musical, remains a man, but not qua not-musical. (c.f. S. Th. I-II, q. 5)

Yet, becoming was attributed in all three cases:

- "Man becomes musical."
- "Not-musical ~~man~~ becomes musical."
- "Not-musical man becomes musical."

Only the first, viz. 'man' remains, once the becoming is accomplished.

(b) *Stendit propositum* (190a13): in qualiter factio naturalis tria:

1. Two things are to be found in all natural becoming:

- "there is always an underlying something, namely that to which ~~which~~ becoming is attributed;
- "and this, though one numerically [~~or~~ in subject], nonetheless, in form [~~or~~ notion] is not ~~the~~ identical."

For when we say that "a man becomes musical", the man is one in subject, but twofold in notion: for the notion of man and the notion of not-musical [man] are not the same notion: "to be man" is not the same as "to be unmusical."

Finally, it is obvious that, in becoming, something becomes.

2. Proof of what was stated:

[a] That the subject to which becoming is attributed is twofold in notion: Two ways of showing this:

(x) In such a subject, something exists, and something does not that which is not opposed to the term of becoming remains: in the example, man; but not-musical does not, neither the simple term 'not-musical', nor the composite 'not-musical man'.

(b) In the case of non-permanent things we say, ~~rather~~ "from this to become that", rather than "this becomes that" (though not always): for we say "to become musical from not-musical", and not "from man". We also say "the not-musical becomes musical", but this is per accidens, inasmuch as that which happens to be not-musical becomes musical.

But of permanent things we do not speak in the same way. We do not say "from man he becomes musical", but we say that "a man becomes musical". Nonetheless we do, at times, say, even in the case of what is permanent, "from this becomes that", as in "from bronze becomes the statue." There is a reason for this: cf. n. 9: "sed hoc contingit..." This explained *Meta VII, 6, 1416.*

Then S. Th. argues: "Ex hoc ergo ipso quod ~~homo~~ diverso modo loquendi utimur.... sunt duo tamen ratione." n. 9, fin.

[6] Obicit: in omni fatione naturali oportet esse subjectum.

(a) Probare hoc per rationem, i.e. logicam, potius ad metaph. (VII, 2, 1284)

(b) Hic fit per inductionem:

① Ex parte eorum quae fiunt: Fieri said ὁπλοῦς, multiplicitate.

First distinction: "to become ἁπλοῦς", simpliciter, absolutely, and "to become to be so-and-so", secundum quid. Absolute becoming is of substances only; relative becoming (i.e. as to something else) of all other.

Here, Arist. b. h. 190a 33: "Now, in all cases other than .... and plants from seed."

Now P. Thomas: "Ex hoc illic...." n. 10.

Ex. "man" →

Note that this subject, e.g. an acorn, is a determinate one, established by induction, by a demonstratio ad sensum repeated.

② Ex parte modorum fieri, patet subjectum: shown by induction of various ways in which something comes to be: to point out the subject.

different  
types  
of  
subjects

- by change of figure: statue from bronze
- by apposition, as in increment: a ~~stream~~ <sup>river</sup> ~~from a drop of water~~ <sup>inlets</sup>.
- by abstraction: as a statue from stone.
- by composition, as a house
- by alteration (change of quality), as when the matter undergoes a change.

Now St Thomas adds a note: Sed advertendum...

3<sup>o</sup> Concludit propositum: id cui attribuitur fieri semper est compositum.

Actually, three things are involved in becoming:

- (a) That at which the becoming terminates; e.g. musical.
- (b) That to which becoming is attributed, and this is twofold:
  - (a) the subject: man
  - (b) the opposite of what the subject becomes: not-music

lectio 13 (c. 7, sep.): How many are the principles of <sup>the things that come to be by nature</sup> nature.

1<sup>o</sup> The per se principles are two.

14. We ~~say~~ <sup>are</sup> say that the principles and causes of natural things, <sup>are</sup> those of which they are constituted and from which they become per se, and not per accidens.

m. But whatever becomes, is and ~~therefore~~ comes to be from a subject and a form. ¶ Hence there are per se causes and principles of whatever becomes according to nature. ¶ Thus proved ita: Those things into which the definition of a thing is analysed, are also its components. But the notion of what becomes according to nature is analysed into subject and form: as the notion of 'musical man' into the notions "man" and "musical".

This is only an analogy.

St Thomas notes "principia non solum per se..." R. 2, fin.



(n.2) There is a third, but it is a principle "per accidens".

(5)

While the subject is numerically one, it is nonetheless  
multiplied in notion. Matter is "ἐπεὶ ὁ πᾶσι" - numerable.

Cf. S.Th., n. 3. - The explanation of S.Th. implies  
a difficulty to which he replies in St. Princ. Nat., c. 2  
(Pavson's edit.)

Circa n. 4: negation of negation. de Ver., 28, 6, c.

2<sup>o</sup> Solvit omnes dubitationes praecedentes (n. 3)

- Concludit quomodo duo et quomodo tria principia,

- Et quomodo contraria et quomodo non;

l. X, n. 3 }  
l. XI, n. 4 }

- Contr. si supponitur subiectum, talium quibus actus patitur

- tunc contr. si contraria accipiuntur sine subiecto.

N.B. Forma et subj. non contr.; nec priv. et subiect.

Unde antiqui dicentes contraria, sec. aliquid veni, non totaliter

3<sup>o</sup> Cum semper requirantur contraria vel non. (n. 6)

Another sense in which only two: subject, and priv. { by absence  
or presence.

Note S.Th.'s "Secundum", n. 7:

(a) - motus: de uno affirmatum in aliud affirmatum: de albo in nigrum

- generatio: de negato in affirmatum: de albo in album, de  
non homine in hominem

- corruptio: de affirmato in negatum: de albo in non album  
de homine in non hominem

Unde, in motu, duo contraria et unum subiectum.

sed in gen. et corr., praesentia cuius contrarii et absentia  
eius, quae est generatio.

(b) Quoniam oppositio et quoniam non in substantiis. (n. 8)

Finally, he manifests these principles. (n. 9)

The ultimate (prime) subject cannot be known absolutely.

Analogy with shape.

Is known "κατ' ἀναλογίαν": "Secundum proportionem"

Cf. Metaph. VII, c. 2, 1277, 12

Nec est "hec aliquid", i.e. individuum demonstratum.

Cf. notes after lesson 13.

Book I: on principles of subject qua ens mobile: de subiecto  
ut 50 principiis composito.

Book II: on subiectum scibile; hence we must determine  
"ex quibus demonstrat" ista scientia.

Hence, this Book two parts: { de quibus 9 ista scientia { quid sit natura l. 1  
- ex quibus causis, l. 5. { quod modis dicitur, l. 2

Quid sit natura:

- 1° Notificat naturam: (a) investigat def. naturae, nn. 2-4.  
(b) concludit eam, n. 5 & hinc cum...  
(c) exponit ipsam, n. 5, & Quare autem...
- 2° Notificat ea quae denominantur a natura, n. 6.
- 3° Exponit quid sit 'secundum naturam', n. 7.
- 4° Excludit demonstrati..., n. 8.

Comm. n. 2. Note S. Th's "dicimus quaedam esse a natura".

Note the examples of orders: (a) animalia  
(b) plantae  
(c) corpore simpl.

Not called 'natures', but 'a natura'.

Hence question: "What is this from which  
they come or become?"

Then we observe that the things called  
'a natura' have in themselves a

principle of mov and rest: κινησις και στα

E.g. growth and maturity.

Then they make an induction of the kinds  
of movements said to be 'a natura':

The order is that of manifestum: { local growth alteration & elements

What meant by 'to have in themselves a principle of ~~natural~~ change' is manifested by opposition to artifacts: in these, no principle of change except in virtue of what they are made of, e.g. a wooden bed.

[A confusion on this score will lead to a conception of nature as if natural things were human artifacts, in which the artif. form is accidental to nature: and the matter alone will be considered: as if, in nature, 'what the things are made of' were also what they really are.] [[ This a return to Presocratics ]]

Relative irrationality of nature: e.g. "agens a natura; agens a proposito."

n. 3: A difficulty concerning the implication that <sup>in every</sup> kind of change in natural things, the principle of mot is in that which is in movement (in eod. materia). Example: heating water: by an external agent. Still, if this is to be called 'a natura', the principle of this change must <sup>also</sup> be in the water, for it is heated 'naturally', or 'a natura'. But the principle is an external agent, and not 'in eod. materia'.

Some reply that there is always an agent principle intrinsic to that which is said to change 'a natura' - φύσις, not a perfect one, but imperfect one helping the external agent. They conceive the privation as an inchoation of form. - Note: this confusion easily made: privation is negation of a determinate form; hence, the privation too is some determinate. And there is no potency to form except to the form of which there is privation. Hence it seems that something of this form is already there before it is had.

"Sed hoc non potest esse..." The 'praeterea' shows that this solution merely postpones the difficulty. Besides, it is contrary to what Arist. had establ. in the last chapt. of Book I.

Circa n. 7:

Whatever is denominated receives its name from the act that corresponds to it.

[Ratio: whatever is known is known from the act. (This true even of 'potentia', which just means the power of doing something.)]

Now, in the case of actions, the act is their principle. Thus medication ~~is denominated~~ <sup>receives its name</sup> not from its term, health, but from its principle, medicine.

But in the case of passions, it is the term which is their act. Thus birth <sup>is</sup> said of what is born, and by reason of what is born, e.g. a man, the term of birth. The denomination birth, like that of 'albati', is taken from the form according to which the thing becomes. Birth is a via in naturam; but that 'inquod' is the form. Hence nature is said of form.

Note the order and connection between arguments and collariis in nn. 3-7.

Post haec, we may ask why ~~the~~ matter, too, should be nature. By participation. Still, form would not be nature if matter were not. For, without matter, no nat.

Peacock, matter, & nature, also goldam div, scil. ut propter formam. Memo Phys. I, l. 15.

Note valde diff. between nature here, and 2<sup>d</sup> adj. mode. this abstract; first in sing. exist.

Discern of reason not only because of inference, but  
already because of passage from known to  
unknown, as in from complexed to distinct.

Ita 'eius mobile' : 1<sup>o</sup> confuse : eius conceptum quidditatis sensibili.  
2<sup>o</sup> distincte : significationem mobile.  
3<sup>o</sup> demonstrative : ut subiectum motus & corpus definitione.

Lib. I } 1<sup>o</sup> Confuse : eius prae. enim, conceptum quidditatis sensibili.  
2<sup>o</sup> distincte : subiectum motus, motus cognitus ut nomen : eius mobile.  
3<sup>o</sup> distincte qd ad principia : subiectum TOU prae simpliciter,  
4<sup>o</sup> Ex quibus causis demonstrative : mat. forma & prae.  
Lib. II } 4<sup>o</sup> ut proprium subiectum motus & corpus definitione.  
Lib. III }

Totum universale: adest cuilibet parti secundum

totam suam essentiam et virtutem, ut animal homini et equo; et ideo proprie de de singulis partibus praedicatur.

Integrale: non est in qualibet parte, neque secundum totam essentiam, neque sec. totam virtutem; et ideo nullo modo de singulis partibus praedicatur, sed aliquo modo, licet improprie, de omnibus simul: ut si dicamus quod panis, lectum et fundamentum sunt domus.

Potentiale: adest singulis partibus secundum totam suam essentiam, sed non secundum totam virtutem; ideo potest praedicari de qualibet parte, sed non ita proprie sicut totum universale. Ita memoria, intelligentia et voluntas sunt una animae essentia.

Ita 47, 1, 1<sup>m</sup>

If there is to be science in the sense here intended, we must prescind from indiv. sensible matter: otherwise no actual intelligibility. This common to all the sciences. (Russell and Whitehead on our side, here.) The concrete things surrounding us, utterly dark.

We must disting. these meanings to understand the 'aliquiditas'?

For, as we shall see,  $\left\{ \begin{array}{l} \text{we must abstract from this matter; but not common sm} \\ \text{we may abstract from ~~the~~ sensible matter} \\ \text{altogether; in math.} \\ \text{finally, even from intelligible matter. [Even,} \\ \text{at least negatively, as in logic.]} \\ \text{Then in metaphysics.} \end{array} \right.$

"... secundum qd aliqua diversimode se habent --- But just how? "Russell..."

This provides the proper principle for the division...

Definition medium and principle of demonstration.

But why should different modes of defining establish different sciences? Sc. refers to common principles, but these, by themselves, are not principles of demonstration. The principles must be appropriate to the subject. These subjects are of various kinds, as in n° 2°.

These imply three widely different kinds of abstraction. Equivocal nature of "esse", the oral term: here: these things cannot be what they are without sensible matter.

To define without S.M. things that cannot be without it does not refer to things that cannot exist, in the singular, without it. This introduces the notion of species or ratio that is proper to numbers. This species differs from the definable species of natural things in that cannot have a 'what' except in abstraction. It also differs from definitions according to --- cf. de An-I, c. 2. A definition of natural things without sensible matter is "per speciem laudum" and dialectical or logical, and therefore insufficient in this point. But Mathematics is not concerned with this kind of esse:

Logos is an analogical term: und, speech, notion, proportion, etc...

Here ratio. definable without sensible m.

# Corpus of Aristotle's Natural Works:

1<sup>o</sup> *Physico* - Shall see reason for this later. It is a <sup>general introd. - survey of</sup> *prooemium* (nn. 1 to 4 inches.)  
Henceforth Thomas provides a "prooemium" to print out  
the subject of the science and the place of nat. sc. amongst  
the other sciences. The "prooemium" is that of the *Metaph.*,  
who is a metaphysician; it is not natural. Much of  
what he says must be taken for granted. These are "positions".  
However, many of the points treated here have already been  
taken care of in the *Post. Anal.*, espec. toward the end of  
B I (lect. 4). This worth mentioning: nat. phil., as  
any sc. pursued for its own sake, presupposes logic - even though  
"habet maximam difficultatem."  
Just as logic general introd. to the sciences, phil. of nature  
~~is the~~ provides a proximate <sup>and necessary</sup> approach to metaph. - and  
we shall see in the course of this prooemium.  
We will go through rapidly - for the subject is the present  
course begins with B. III - viz. the diff. of mot & infinity.

So, "Quia liber *Physicorum*"....

- materia et subiectum

Quid subiectum sciæ? That about which we seek sc. knowledge.  
Quid obiectum? That which we seek to know, nl. conclusion.

Further distinctions...

"Scientium et epistemon..." Note "Scientia" equivocal term - already in  
Knowledge in knower. <sup>troublesome and even</sup>  
Intellect. knowl. is intellect. <sup>depression. Today more</sup>  
<sup>than ever. A corollary.</sup>

Intelligibile in actus est intellectus in actus.  
Hence, if the knowable is not in itself actually intelligible,

It must be made so by us.

[If we will so and cry it is not the same, then the thing  
is intellig. only in potency. It is a "this" that owes its  
being to something extrinsic to what it is. This  
extrinsic something is individuating matter,

But matter, active, is an analogical term: here we must  
take into account 3 meanings: { indiv. sens. matter  
common sensible matter  
intelligible matter.



Phys. II lect. 12

Faut noter que les anciens avaient soit rien tout devenir, soit reconnu un devenir de surface que nous appelons accidentel. Même Anaxagore ne pouvait le reconnaître, puisque tout devait persister: un devenir simplement phénoménal.

Nous supposons qu'il y a un devenir absolu, p. ex. de Socrate en tout homme. Nous supposons la substance des catégories, laquelle est une par soi.

À la leçon 10 on a montré que tous les anciens ont porté des principes contraires, même Parménide.

Ensuite, n. 4, que ce n'est pas n'importe quel contraire qui vient d'un contraire quelconque. Ainsi, le blanc devient non-blanc, et chaud par accident. Dès lors "oportet quod id quod per se aliquid fit, et in quod per se aliquid corrumpitur, tale sit quod in sua ratione includat non esse ipsius quod fit vel corrumpitur."

Puis, leçon 11 : <sup>diagnostic :</sup> Au moins deux, et trois suffisent.

---

thought?  
Personation essential to his thought?

Phenom.?

1<sup>st</sup> Sense de dialectique: "pro speciem tantum"

2<sup>d</sup> Sense: plurième mais incertain

Ad quid se extendat consideratio naturalis.

1<sup>o</sup> Ad naturalem pertinet considerare formam et materiam.

(a) Ex praeminis concludit propositum:

- Natura dic. de materia et forma: unde in sc. nat.  
ita cum intendimus de Simo quid est.

Ergo consideratio in sc. nat. non sine mat. seu,  
nec solum sc. mat., sed etiam sc. formam.

Nota in isto processu duo media:

(i) Naturalis de natura.

Natura est tam forma quam materia.

(ii) Consideratio Simi est formae et materiae.

(b) Supplex dubitatio:

(i) Natura ~~non~~ de materia et de forma.

Estne sc. nat. ut de materia vel  
ut de forma, vel de x utroque compositum.

(ii) Si de utroque, utrum ead. sc. de forma et materia.

Soluit:

(i) Soluta ex praeminis de Simo.

(ii) Videtur qd ut de mat., ex opinione antip.

Sed est. proposit. 3<sup>us</sup> rationibus:

1<sup>a</sup>: Arg imitatur naturam.

Sed Scientiae artificialis est cognoscere  
mat. et formam usque ad aliquem  
certum terminum.

Ergo est naturalis.

[Quare arg imitatur naturam? n. 6]

2<sup>a</sup> ratio: Eiusdem rei ad considerandum finem et ea quae sunt ad finem, quia ratio horum habet a fine summum.

Sed natura quae et forma, et finis materiae.

Prob. m.: Duo ad finem pertinent:

① - qd sit ultimum

② - qd sit cuius gratia fit: ultimum et optimum

① Qd forma sit ultimum generationis, patet.

② Qd sit cuius causa fit respectu materiae, manifestum per similitudinem in artibus.

Sic: quaedam artes faciunt materiam,

- vel simpliciter: brickmaker.

- vel operose: carpenter cutting wood for st.

Hec: Nos utimur artificialibus.

Nos homo finis hominum, scil. ut cujus,  
i.e. habitator; nam quo et habitatio.

Hinc duae artes sunt:

(architectura) → una quae praecipuum artibus faciunt materiam

(ars utens) → aliae cognoscunt, i.e. dijudicant, de artibus faciunt materiam.

~~Sed utens, seu dijudicans, ut architectonica respectu factioe: ut manufactura respectu carpentariae~~

Sed, in factis, una et architectonica respectu ejus quae disponit materiam, ut manufactura respectu carpentariae.

Hinc, etiam usualis et, respectu factioe, ut architectonica, scil. imp. et cognoscere et dijudicatio de forma. Et factio et architectonica respectu materiae.

# I Sujet de la science.

Quid sujet. A propos de quoi comm. scient. I<sup>er</sup> livre: les princ. du sujet.

Quid objet. complexe. Principes. II<sup>er</sup> livre.

1<sup>o</sup> Le sujet vu comme principe: nature.

- Nature se dit du princ. actif mais aussi du pr. passif.

Mais tout à fait premier:

primo et per se.

2<sup>o</sup> La sc. naturelle portera sur la forma (magn. natura) et sur la matière.

3<sup>o</sup> Mais où trouver les principes propres d'où l'on pourra manifester les propriétés du sujet?

Division des causes selon leurs espèces.

Division " " " " modes.

4<sup>o</sup> Causes obscures: Hasard, manifesté par fortune. Ici, finalité. Sans finalité, ni fortune ni hasard. Cette question essentielle à discussion de la proposition que la nature agit pour une fin, car, si non, le bien qui arrive dans la nature n'aura pas de cause proportionnée. ~~Donc, accélé à la~~ Donc précis de soutenir que tout bien arrive par hasard. Le plus est impossible, car le hasard suppose finalité. Cf. de Ver. V, 2. Donc, nature serait purement irrationnelle, et la sc. de la nature deviendrait impossible. Monde complètement à l'envers.

5 Ayant posé la finalité, nous avons introduit deux

- l'intelligence (l. 12, n. 1).

- le possible.

l'animal est néc<sup>essairement</sup> corruptible par' il est composé de contraires.  
Cette nécessité-ci est la cause de celle-là et il n'y que  
cette cause: c'est une necessitas à causa priori.

Puis il y a la nécessité qui vient de la forme, c'est  
à dire de ce que la chose est: homme ne peut pas être  
sans être raisonnable; item, le triangle... Ce qu'est  
un animal, une maison, est nécessaire et ne pourrait même  
pas se faire.

Il y a aussi une nécessité qui vient de la cause  
efficiente. Cela ne veut pas dire que tout ce qui vient  
de la cause efficiente soit nécessaire. Cela veut  
dire que si quelque chose provient nécessairement d'une  
cause efficiente, cette nécessité sera a priori et par suite  
absolue.

Au chap. 8, Aristote avait montré que la nature agit pour une fin. Ici, c. 9, il se demande quelle sorte de nécessité l'on trouve dans les choses naturelles. Or, on distingue deux sortes de nécessités: absolue et conditionnelle ou hypothétique. On peut rapporter cette division à celle que l'on trouve dans le *Pari. Metaphys.* Pour concrétiser cette distinction S. Thomas énumère d'abord les espèces de la première par des exemples. La nécessité qui dépend de causes antérieures dans l'existence est absolue, et on la voit dans les choses qui dépendent de la nature. Ainsi l'animal est-il composé de certaines au sens strict. Il est donc nécessaire absolu qu'il soit corruptible: c'est-à-dire que tout animal sera un jour corruptible.

Nota hic, que 'necessarium ex materia' doit s'entendre d'une nécessité qui vient de la nature, et non pas du besoin de matière. Faire ici attention, car on pourrait énoncer cette nécessité sous une forme conditionnelle, 'si l'animal est corruptible de...', ce pourrait prêter à confusion. Non, il faut dire que

absolue  
cause efficace  
due qui se qui  
de la nature  
appétit. La  
il y a aussi le  
se se faire.  
un animal, que ne

puiss il y a la nécessité qui vient de la forme, c'est  
a' dire de la que la chose est: comme au point de vue  
sans être rationnelle; être, le triangle... Ce peut  
être dit aussi d'une nécessité à cause de la nature.

l'animal est une 'essence' et il est composé de parties.  
Cette dernière - c'est la nature de cela. Et il n'y a que  
cette cause: c'est une nécessité à cause de la nature.

21. I Phys. 81, A. 12

Influence of time: ) Should of Dineat

1. not just of time but of space.  
2. time is not space but time is space.  
3. time is not space but time is space.

Neurone et infirmité humaine.

1. space motion motion

1. space

2. time do the space.

The space motion of time is space.

space time

1. time motion time of space is space.

Phys. I, l. 8. n. 2.

Voir de Ver. VIII, d. 14, c. A noter: le  
devenir où deux propos contraires peuvent  
être dans le m<sup>ême</sup> sujet, rend le mobile  
comme semblable à l'âme, où les contraires  
se trouvent ensemble.

1. space

1. space motion time of space is space.

1. space motion time of space is space.



3718 3. Pourquoi, d'après Aristote et St Thomas, les  
2803 Sciences physico-mathématiques ne sauraient user  
~~toute~~ de la cause finale ni de la cause  
~~efficiente~~ motrice ou efficiente. <sup>Comment</sup> En fait, la  
négation de l'action pour une fin dans la  
nature ~~est~~ <sup>provient d'un</sup> postulat anthropomorphique.  
(In I Pers. Anal., lect. 25, n. 4; In Boethium  
de Trinitate, Q. 5, a. 4, ad 7.)

Physique mathématique et causalité.



## Common I

by a Dietician

ONCE every seven years the cells of the human body are renewed throughout. This means, in simple language, that the nose you were blowing in the winter of 1951 is not the nose you are blowing to-day; it has been subtly replaced by another, and it is one of the marvels of biochemistry that the new organ, by some means not wholly understood even by your doctor, accurately reproduces the design of the old. The old plaint about only having one pair of hands, seemingly so irrefutable, is therefore in fact absurd. A housewife of seventy is actually on her tenth pair.

How can these bizarre revelations be wrenched round to come under the title of this informative and searching article? It is not so difficult as may appear. What goes into the nose—and indeed into the hands, feet, ears, knees and other anatomical features too humorous to mention—is the daily flow of proteins

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venience

such shar  
meals, sna  
beans on t  
nose of 1  
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this eveni

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hand, by e  
and care v  
botulism  
(reheated r  
ing (impo  
dislocation  
over-large  
confronted  
kind, will  
poised an  
questions:

(a) Has

(b) Are  
in th  
Kills  
Arch  
Epi

Lib. VI Removet a principali consil. hujus scilicet { ens per accidens  
ens sec. qd signif. eorum.

Lib. VII - XII

Prima pars: de int. (vii - xi)

Prima luyus : de ente (vii - ix)

Prima lujă : de e se găsi diviul. în 10 praedii. (VII, l. 1-2)

Prima hypothesis: de Sola Substantia (p.1)

Primo quod de substantia sit determinandum (l. 1, 1245-.)

Primo: de sola subd. sec. rationem (l. 1, 1245-1259)

Secundo: - - - - - per consuetudinem aliorum (1260-1269)

Secunda: de <sup>minis</sup> principijs entis (XII)

Lib. VII Lect. 1: Principales Interio lujis scine da dubi. consideran.

lect. 2: Incipit de subst. determinare: hic ostendit modum et ordinem tractandi de substantiā.

Subst. dicitur 4 modis.

Quartus modus, Subjectum de quo alia dicuntur.

Subdividit: materia, forma, compositum.

Subst. praedicata de materia denominative: hoc materialium  
ex homo.

Forma (species) et compositum magis sublt.

Primo de subj. sensibilibus.

lect. 3: In hoc VII<sup>o</sup>: de essentia substantiarum sensibilium per rationes  
logicas et communes. (In VIII<sup>o</sup> per principia subst. sensibil.)



Meppel et Mores l'accordent; l'histoire naturelle  
et l'histoire humaine sont éternelles pour la  
cartouche: Topique des Topiques Topiques.  
Natura que Mores fait une distinction  
de l'histoire.

- The above and above of the metathesis.
- "..." the quote St. Thomas, "..."
- a little too much space given in his story to reading  
events contemporary with...
- "... judged in two ways, in matter of which is it easy  
to find oneself in complete agreement with Mr. X.

de monnaie pour les besoins de  
combattre l'étranger: explication de  
deux de la notion de 'denier' avec le  
denier de cette maison. (cf. *Albion*.)

The accusation of 'mutilation' (see St. Expt. 23 & 28  
Expt. on Expt. p. ii.)

"An appropriate 'denier' (in de mon.) instead  
of style.

Denier and 'denier': I II, p. 57, a. 3, ad 3

Denier with an: ibid. ?

- Some mutisms: what they imply is that the  
speaking of animal and plant can  
be led back to and explained in  
terms of physical chemical processes.

- "Weighing in": When can a physical action  
be said to 'weigh in' by stepping on  
a scale to show that his weight does  
not differ from that of a sack of potatoes  
of a heap of rocks. He can know, with  
good reason, call this 'true', and ~~not~~  
call it to call this 'most exact', ~~not~~  
explaining 'most exact' by 'what he  
is going and forward', all the way  
being incidental.

- "... discussing particular volumes are  
just as if a chair."

- Edith Hamilton, 'The Greek Way to Western  
Civilization', A Modern Book, pub. by  
the New American Library,  
501 Madison Ave., New York 22, N.Y.  
354.

- Platon, *atlas* individual most  
object; instead of external situation  
actual, very complex. Then another  
case of generalization. E.g., is  
from a generalization to just that, but is  
more, e.g., a more one!

Modern conception of phys. world first culminated in Newton.

Extremely Simple. Basic idea mechanical.

Quid Machina? A more or less complex tool: one grown out of reason in purpose of making: Hammer  $\rightarrow$  atomic reaction.

Well-known, because quite common.

There is an analogy or proportion between the order of an harmony, and nature.

But only a proportion - not an identity.

This non-identity can be stressed by pointing out that whereas we make machines for a purpose — the quasi-mechanism of classical physics can be accounted for without purpose.

In fact, it is mathem. phys. - explaining things in terms of what is prior in being: essentially material causes.

Notice combination of two things { mechanical } to the new & m.  
 { mathematical }

Extremely successful. Killed ... approximately two eunivores.

Meanwhile, moral philosophers tried to introduce the same

simplicity into the field of Ethics. Hobbes & Spinoza.

More arithmetic, geometric.

Finally, with Heppel,  $\equiv$  of real & rational: what is  $\equiv$  what only w.r. to Laplace's.

Negation of contingency. Laplace...

Kierkegaard: human situation and conduct demanded of man not that simple.

Schmaltz, a great deal of irrationality around, such as the

shape of Prof. So and so's nose. But it exists...

Shape of Prof. So and so's mind.  
Irrationality in general, and extravagance in particular, lost sight of.

Quid 'contingency'? Analogical term:

$\left\{ \begin{array}{l} \text{possible} \\ \text{"} \end{array} \right. \rightarrow \left\{ \begin{array}{l} \text{impossible} \\ \text{necessary} \end{array} \right. \left\{ \begin{array}{l} \text{extrinsic - a potestate exteriori} \\ \text{intrinsic : " " intrinseca} \end{array} \right\} \left\{ \begin{array}{l} \text{pos.} \\ \text{simul} \\ \text{contrad.} \end{array} \right.$

This { up in plumes  
stand - seen  
up in plumes  
fall - blind

Quid 'I am contingent'?

Could have not been.

Was most unlikely. Almost immeasurable that I should become.

But here I am!

Parents first met by sheer accident.

Then, that I should have been conceived. — Hypoth. have been born blind, or dumb!

Parents' circumstances.

Their genetic structure, social environment, religion, etc. —

The education I received. — — — — — From teachers. — — —

My circumstances. — — — — — Then change from moment to moment — you and I.

And I can cease to be at any moment, for an infinity of different reasons.

All of these circumstances have two things in common } irrational.  
no choice.

Still, our neighbour naturally inclined to hold

is personally responsible. .... "Master, who hath sinned, this man, or his parents, that he should be born blind?" — "Neither hath this man sinned, nor his parents; but that the works of God should be made manifest in him." .... "The night cometh, when no man can work." Now, in blind, phys. & mental

Duo (a) all this contingency perfectly ordered — down to the last absurdity. Nothing contingent to God who cannot be an accidental cause. Hence protest against contingency and lack of choice, protest against div. wisdom & power.

(b) Our choice: we do have choice: "Fiat voluntas tua. —"

This does not make things easy: "My Father, if it be possible, let this chalice pass from me. Nevertheless not as I will, but as thou wilt." (Mt 26/39)

Note duo: — Power of action circa passion. This the kind

God chose to redeem us.

— Contrariety in div. Person, in the Verbum et in humanitate.

Not contingent effects because contingent causes, but God willed contingent causes so that there would be contingent effects



Our life in the main one of passion. But there is no weakness in it if we accept it willingly, which is actively. (3)

The "Inchmoula," the "Verbum per quod omnia facta sunt" showed His divinity in the weakness of his possible, human nature - by conforming to the will of the Father. We can imitate that. In so doing, we chose more profoundly than in that "Si, per impossibile..." we referred to earlier.

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This being is not that being.

Not-man is not the whole  
of reality, but includes  
even unreality. For non-being,  
and also the impossible  
is not-man.

You cannot leave out ~~being~~  
Substance.

Being is not above substance  
and accident, but is  
immediately divided  
by them.

You complete speculative  
philosophy with practical  
philosophy, and this with  
prudence. Prudence is  
about the singular.

Sur Contingence

Arg. dial. &amp; arg. Mathematica

16

Introduct.

De Caelo I  
ll. 1-3.~~De Caelo I, l. 24 et sq.~~

Rationes logicae I lect. 15.

Utrum mundus genitus vel ingen. I l. 22 et seq.  
(de poss. et imposs., rat. nat. et logicae)(Texte des Rationes logicae III l. - ita diff. à 4<sup>th</sup> p. 14.)De possibili et imposs. Metaph. IX, l. 3, mm. 0.  
" V l. 14, 0Ca per accid. indet. XI, l. 8, mm. 2268 et seq.  
XII l. 12, 0De quo ente sit Scientia: divis. cont. nat. } Met. VI l. 348  
(352)

The first & most prof. reason of determ. is the negation of movement.

- Dicendum quod necessarium significat quendam modum veritatis. Ia 9<sup>o</sup> 10, a 3, ad 3<sup>m</sup>.
- Ad hoc quod aliqua duo distincta intelligantur, necesse est eorum distinctionem intelligi per aliquid intrinsicum utrique, sicut in rebus creatis, vel per materiam vel per formam. Ia 9. 40, 2, c.
- Dicitur veritas intellectus nostri a re causetur, non tamen oportet quod in re per primo inveniat ratio veritatis... Et similiter esse rei, non veritas ipsa, causat veritatem intellectus. Ia 16, 1, 3<sup>m</sup>.
- Verum autem quod est in rebus, convertitur cum ente secundum substantiam. Ia 16, 3, 1<sup>m</sup>.
- Considerandum est quod necessarium et contingens proprie consequuntur ens, in quantum huiusmodi. I 22, 4, 3<sup>m</sup>.
- Excell. ref. II Phys., 18, 2. 4: om nec. et impedim.

- I. The distinction between *potentiae rationales* and *potentiae irrationales*. *Eadem scientia est contrariorum. Contraria in rebus non sunt contraria in mente.*
- II. Contrariety and '*potentia simul contradictionis*.'  
Contrariety is the proper cause of contingency in nature. In the order of mind, error is the contrary of truth. Possible extension of contrariety and contingency to the mind qua capable of error.
- III. Simultaneous presence of contraries is manifest in the case of reason. But there are other cases, namely, the two following: (a) In growth, natural, living beings, are subject to contrariety; hence it is that (i) there is emergence above contrariety in the measure that there is life; (ii) the sense in which the soul is a nature, and the sense in which it is not.  
(b) The case of movement. In the process of change (i.e. in either of the three species of motion) there is a kind of simultaneous presence of contraries.
- IV. The two forementioned cases are at first sight difficult to reconcile with (I). Besides, these two cases ~~are~~ (a) and (b) are widely different. It is (I) and (IIIb) that are at opposite ends for opposite reasons: contraries are simultaneously present in the mind because of its perfection; they are present in movement because of its imperfection.
- V. Comparison between contrariety as regards knowing, and contrariety with respect to appetite. Here good and evil. No simultaneous presence. Appetite is more natural than the knowing power. Things in the mind according the mode of the knower, whereas '*bonum est in rebus*.'
- VI. Why should there be contrariety at all? Examine first the case of '*necessitas quae est ex materia*.' Then extend this to man's intellect and will, both of which are naturally fallible. Contrariety is a *pis-aller*.