

Chapter V

Things Called Nature. (225)

I) Division of Treatise :

1) Matter is nature. (193a9-29)

2) Form is nature. (193a30-193b21)

a) Conclusion - Form is nature. (193a30)

b) Reasons (193a31-b18)

i) It is nature because it is that by which  
the natural thing is constituted; (a31-b9)

ii) It is nature because it is that which comes  
about through generation; (b10-12)

iii) It is nature because it is the term of  
generation. (b18-18)

c) Distinction - The two senses of form as nature. (b19-21)

II) Doctrinal Exposition :

1) Matter is nature.

Text :

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

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

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

"This then is one account of 'nature', namely that it  
"is the immediate material substratum of things which  
"have in themselves a principle of motion or change."

Having concluded his exposition of the definition of nature, Aristotle now sets out to show that nature as defined is applicable to matter and to form. Both, he contends, are nature. The appropriateness of matter as nature is first proved, then form's appropriateness. (226)

"Some identify the nature or substance of a natural object with that  
"immediate constituent of it which taken by itself is without arrange-  
"ment, e.g. the wood is the 'nature' of the bed, the bronze the 'nature'  
"of the statue." (193a9-11)

To show that matter is nature, Aristotle contents himself with a mere recounting of the doctrine of his predecessors. This does not mean that he in complete accord with them. On the contrary, his disagreement with them is far greater than his agreement. First of all, he is not one with them on their stand that matter alone is nature, for, as we shall have occasion to see, Aristotle holds that form is more nature than matter. Secondly, his idea of the matter which he calls nature is certainly different from that which his predecessors called nature. For the latter it was something that was only partially potential, i.e. it possessed some act, whereas for

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226. II Physics, c 1, 193a30-193b21.

Aristotle it is pure potentiality. Despite these disagreements, Aristotle is perfectly justified in making use of their teaching to show that matter is nature. The reasons which impelled them to adopt this conclusion are valid, and the conclusion itself, with certain qualifications, is Aristotle's. The consideration of the reasons and the conclusion, as understood by his predecessors and by himself, will be taken up later when we undertake to explain why the early naturalists taught that matter was nature. For the present we will confine our efforts to the task of stating the position of the ancients.

"Some identify the nature or substance of a natural object with that immediate constituent of it which taken by itself is without arrangement."

For the ancients, as is indicated by the description they give of the element identified with nature, matter alone is nature. It is that constituent of a thing which, taken separately, is uninformed, indeterminate. It is of interest to note the meaning given to nature as used in this text. It is used as essence. This is clearly established by the fact that the word employed in this place by Aristotle to signify 'substance', which is here a synonym of nature, is the greek word *essence*. Though generally signifies form, it can be used to signify essence. In this case there can be no doubt that essence is the meaning attached to *essence* by Aristotle. Were it interpreted as form, it would be completely out of

harmony with the characterisation given the constituent here. We will see the justice of this use of                      in connection with the word 'immediate'

"immediate"

Some were of the opinion that the word "immediate" was intended by Aristotle to mean 'the ultimate material constituent' or *prima materia*. (227) This meaning, however, is quite foreign to the idea of matter which the ancients possessed and it is their idea that Aristotle is quoting here. Actually the word, as used in this context, signifies 'proximate' and connotes that the constituent which for the ancients is nature, is something not absolutely unformed or potential

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227. Simplicius, in *Physicorum* II (Arist., II Phys., 193a2) *Commentaria* (edidit H. Diels), Vol. IX, Berlin (Reimer) 1902:

but only relatively so. In other words, the matter about which the early naturalists spoke in terms of nature, is not prime matter but a matter which, while potential to the form that comes to it, possesses of itself some act. In fact it is a sensible body. This is the reason why Aristotle, when speaking of this matter, used the word nature in the sense of essence.

"e.g. the wood is the 'nature' of the bed, the bronze the 'nature' of the statue."

To make certain that it will be clear to all what is meant by "that immediate constituent of it which taken by itself is without arrangement", Aristotle uses the examples of the bed and the statue. He tells us that the wood is the 'nature' of the bed and the bronze the 'nature' of the statue. To avoid misunderstanding it is necessary to note that in calling wood and bronze 'nature', Aristotle intends to convey the notion that he is speaking of the bed and the statue not qua artificial but as things possessing nature, an internal principle of movement. That this is indeed his intention, is confirmed by what he says later on (228) about the nature of these same things, i.e. the wood and the bronze. Now there can be no doubt that the internal principle of movement found in the artefactum is not identified

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228. II Physics, 193a16-21.

with the artificial form. (229) Rather it is identified with the matter or subject of the artefactum, and hence the nature of the bed is the wood, just as the nature of the statue is the bronze. (230)

Since wood and bronze are the 'nature' of the bed and the statue, all we have to do to get a clear understanding of the phrase, "that immediate constituent of it by which taken by itself is without arrangement", is to compare the wood to the bed and the bronze to the statue. In the case of the wood when considered apart from the form of the bed, it is merely potential. It is not a bed but only has a capability to become a bed. By itself it is unformed or without arrangement. So too with the bronze. It is only potentially a statue. Yet this potentiality of the wood and the bronze is not absolute, for both possess some act, being sensible bodies. Their indeterminateness is limited to the order of artificial forms. Therefore, when we say that matter is nature, we wish to signify that constituent of a thing which is potential after the manner of the wood and the bronze, i.e. unformed but only in a certain order.

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229. "On the other hand a bed and a coat and anything else of that sort, qua receiving these designations-i.e. in so far as they are products of art-have no innate impulse to change." 192b16-18

230. "But in so far as they happen to be composed of stone or of earth or of a mixture of the two, they do have such an impulse, and just to that extent." 192b19-20.

"As an indication of this Antiphon points out that if you planted a  
"bed and the rotting wood acquired the power to send up a shoot, it  
"would not be a bed that would come up, but wood-" (153a12-14)

In confirmation of the position that the wood of the bed, and everything comparable to it, e.g. bronze, stone, etc., is nature, Aristotle cites the argument of Antiphon. It is an argument based on the process of natural becoming as the medium of proving what is nature in things, an argument which Aristotle himself will use when he comes to establish form as nature.

To understand Antiphon's argument it is necessary to digress a bit and consider first the various meanings of nature and their mutual relation to each other. In the V Metaphysics (231) we find the different significations given the word nature. In the order of imposition of names (232) nature signifies first the genesis of living things (233) and, because such a generation or nativity proceeds from an intrinsic principle, nature signifies secondly the principle itself of that generation. (234) By extension nature is

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231. Meta. , c iv, 1014b17-1015a19.

232. "Quia formas et virtutes rerum ex actibus cognoscuntur, per  
"prius ipsa generatio vel nativitas, naturae nomen accepit,  
"et ultimo forma." St Thomas, V Meta., lect. 5, n. 824.

233. "Nature means (1) the genesis of growing things-" V Meta.,  
1014b17.

234. "Nature means (2) That immanent part of a growing thing,  
"from which its growth first proceeds." *ibid.*, 1014b18.



next applied to the intrinsic principle of any type of movement (235) and this is the meaning of nature in the II Physics. Fourthly, nature is said to be that unformed matter of which any natural object consists or out of which it is made. (236) Lastly nature is said to be form, either in the sense of species (ratio definitiva) or as that principle which is opposed to matter and which together with matter constitutes one thing. (237) Of all these various senses of nature the most proper is that of nature as species. This becomes evident when we consider the order that exists between the many senses. The last four senses of nature have a certain order to the first. The order of nature-generation to nature-principle (matter or form) is that of passion to its source, while its order to nature-species is that of passion to its term. As generation, nature regards the principles of generation as that from which, but it is related to nature-

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235. "The source from which the primary movement in each natural object is present in it in virtue of its own essence." *ibid.*, b19-20.

236. "'Nature' means the primary material of which any natural object consists or out of which it is made, which is relatively unshaped and cannot be changed from its own potency." b26-28.

237. "Nature means the essence of natural objects." b35  
 "Et secundum hunc modum non solum forma partis dicitur  
 'natura, sed species ipsa quae est forma totius." S. Thomas,  
 V Meta., lect. 5, n. 622.

species as that towards which it tends. (238) Of the two orders the more important is that which nature-generation has to nature-species. Generation is a passion and every passion receives its denomination from its term and not from its principle. (239) It follows, then, that the term of the generation is more nature than the generation itself. (240) One can easily understand why Antiphon, and after him Aristotle, chose the process of natural becoming as the medium of proving the nature of things.

Antiphon argues that if a bed were planted in the ground and the rotting wood were to acquire the power of reproducing, the thing produced would not be a bed but wood. Hence he concludes that wood is the nature of the bed. This argument involves three things: (1) the rotting wood, endowed with the power of reproduction, would not produce a bed, (2) but wood, (3) and because it would generate wood, wood is nature. That the rotting wood would not produce a bed

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238. "Sed natura dicta ut generatio, idest nativitas, non sic se habet ad naturam sicut medicatio ad medicinam: sed se habet ad naturam sicut ad terminum, cum sit passio. Id enim quod nascitur, a quodam in quoddam venit inquantum nascitur." II Phys., lect. 2, n. 7.

239. "Hec est differentia inter actiones et passiones, quod actiones denominantur a principiis, passiones vero a terminis. Unusquodque enim denominatur ab actu, qui est principium actionis et terminus passionis. ibid.

240. Propter quod unusquodque et illud magis.

is clear from this fact that the principle of the bed is art, a principle extrinsic to the wood. So the wood will not generate something that is not dependent upon it. That the reproducing wood will not bring forth anything but wood, i.e. no other natural object, follows upon the original postulate, namely that the wood is said to possess the power of generating. Since all living things generate something similar to themselves, (241) and since wood is assumed to be a living thing, the necessary consequent is that wood produce wood. Antiphon's conclusion that wood is the nature of the bed, because it is wood that is generated, presents no difficulty in view of what we said about the relation of nature-generation and nature-term of generation. If generation, which is the 'via ad naturam' (242), terminates in the production of wood, then wood, the term, must be nature. It is important to note that when Aristotle comes to use this same process of argumentation in order to prove that form is nature, we will have occasion to remark that he disagrees with Antiphon about the term of generation. For him it is not matter but form or species that is the term.

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241. "et naturae est sibi simile generare," (II Phys., lect. 2, n. 1.

242. "Natura potest significari ut generatio, puta si natura dicatur nativitas. Sic igitur natura dicta ut generatio, idest "nativitas, est via ad naturam." ibid, n. 7.

"which shows that the arrangement in accordance with the rules of art is merely an incidental attribute, whereas the real nature is the other, which, furthermore, persists continuously through the process of making." (103a14-18)

If, then, the wood is the nature of the bed and the bronze the nature of the statue, what is the role of the form of the bed and the figure of the statue? Since only the constituent that is without arrangement, i.e. matter, is nature of the bed and of the statue, it follows that the constituent which is arrangement (form) does not pertain to the order of the nature or substance. What is it then, if it does not belong to the order of the nature of a thing? Aristotle rightfully classifies it, in accordance with the position maintained by the early naturalists, as an incidental attribute. It is an accident of the thing in both the predicamental and predicable sense of the word. (A predicamental accident is one which depends on a substance in order to exist and is defined through inherence. A predicable accident, on the other hand, is something whose presence or absence is indifferent to the thing of which it is an attribute. (243) E.G. White is a predicamental accident because it cannot exist by itself but requires a surface. At the same time white or red with

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243. "An accident is -(2) something which may possibly either belong or not belong to any one and the self-same thing, as (e.g.) the 'sitting' posture may belong or not belong to some self-same thing. Likewise also 'whiteness', for there is nothing to prevent the same thing being at one time white, and at another 'not white.' I Topics, c v, 102b5-7.

regard to Socrates are predicable accidents, in so far as their presence or absence does not affect the subject, Socrates. Whether he pales or blushes, Socrates remains Socrates.) There can be no doubt that Aristotle's understanding of the ancients' doctrine of the relation of form to nature embraces these notions. That the form is a predicamental accident is clear from the fact that the forms concerned are artificial and all such forms are accidents. That it is likewise a predicable accident is indicated by the use of 'incidental'. This word signifies that there exists no necessary connection between the attribute and the subject of the attribute and hence the former is dispensable without prejudice to its subject. To avoid confusion on this last point it is well to point out that Aristotle, following the lead of Antiphon, is speaking of artificial things, such as bed, statue, not qua artificial, but qua possessing nature. Were he not speaking in this manner, he would never have permitted the designation of the artificial form as incidental to pass unchallenged. That form is not an incidental attribute of the artificial thing qua artificial.

Having made explicit the opinion of his predecessors on the character of the artificial form, a character with which he is in complete accord, (244) Aristotle now concludes with a restatement of

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244. "On the other hand, a bed and a coat and anything else of that sort, qua receiving these designations, -i.e. in so far as they are products of art-have no innate impulse to change." II Phys., c 1, 192b16-18.

the position with which he began. The real nature is "the other", i.e. that constituent which, taken separately, is without arrangement. He adds that it has a quality of stability, for it endures continuously throughout the whole process of making. He will have occasion once again to see this point emphasized.

"But if the material of each of these objects has itself the same relation to something else, say bronze (or gold) to water, bones (or wood) to earth and so on, that (they) say would be their nature and essence." (195a19-20)

Nature is matter, that indeterminate element, while the artificial form is nothing more than an incidental attribute. But what about those forms which are not artificial but natural? Are they nature or are they similar to the artificial forms? Aristotle now takes up the question of the wholly natural thing. Hitherto he had been concerned with the artificial qua a natural thing and had shown that matter is nature there. Proceeding along the same line of reasoning, he shows now that it is the unformed element in the natural thing that is nature and hence the natural form is an incidental attribute.

"But if the material of each of these same objects" :

There can be no doubt of the identity of "these same objects" or of "the material". Aristotle explicitly manifests the

identity of the latter when he says : "say bronze (or gold) to water, bones (or wood) to earth and so on". This enables us to put a name to the first phrase. "These same objects" are the bed, the statue. However we are no longer concerned with these, for we have already seen what their nature is. What is pertinent to the present discussion is their material or what was called their 'nature', the bronze, the wood. Is bronze the nature of bronze, as it was the nature of statue ?

"has itself the same relation to something else, say bronze (or gold) to water, bones (or wood) to earth and so on, that (they say) would be their nature and essence."

If the bronze or gold, and the bone or wood have the same relation to something else, as did the bed to the wood, the statue to the bronze, then neither bronze or gold, wood or bone are nature. In that case they are not that constituent which is without arrangement, the hallmark of nature. Rather for bronze or gold nature will be water, for bones or wood earth. (245) But what of the constituent which makes bronze bronze, wood wood ? What is its relation to the nature of bronze and wood ? Aristotle postpones the answer to these questions until the next sentence.

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245. Obviously it is assumed that water and earth are the elements which, taken apart from bronze, wood, etc., are without arrangement.

"Consequently some assert earth, others fire, or air, or water, or some or all of these to be the nature of the things that are. For whatever any of them supposed to have this characteristic-whether one thing or more than one thing-this or those he declared to be the whole of substance, all else being its affections, states, or dispositions." (193a20-26)

There is no unanimity of opinion among the early naturalists as to the identity of the nature of things that are. Parenthetically we might remark that Aristotle confines himself to an enumeration of the theories of those who spoke of natural things in a natural manner and passes over in silence those who treated the same objects but in a manner that was not natural. These he considers in the *Metaphysics*. (246) The reason for their omission from the *Physics* is because the Pythagorians and the Platonists sought to explain natural things through principles which were not natural but mathematical. (247) and hence were not concerned with nature, the principle of movement. Now among the naturalists we find that some,

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246. I *Meta.*, c viii, 989b25-c ix, 993b10.

247. "Differebant (Pythagorici) quidem in positione principiorum; uti sunt enim principia rerum extraneo modo a naturalibus. - - Cuius causa est, quia principia rerum non acciperunt ex sensibilibus sicut naturales, sed ex mathematicis, quae sunt sine motu, unde non sunt naturalia." St Thomas, I *Meta.*, lect. 13, n. 202.

"Sed Platonici praeterrmittentibus huiusmodi causas (finis et efficiens) facta sunt naturalia ac si essent mathematica sine motu, dum principium et finem motus praeterrmittebant." *ibid.*, lect. 17, n. 259.



like Thales, held that water was the nature of things (248), others, such as Anaximenes and Diogenes, thought it to be air. (249) Again, Heraclitus and Hippasus insisted that nature was fire, (250) while Empedocles taught that nature was a combination of these three with the addition of earth. (251) It might strike one as strange that Aristotle includes earth among the opinions on the identity of nature, since he himself says that no ancient philosopher ever held it to be the principle of things because of its coarseness. (252) Yet, to

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248. "It may perhaps be uncertain whether this opinion (water) about nature is primitive and ancient, but Thales at any rate is said to have declared himself thus about the first cause." I *Meta.*, 984a2.
249. "Anaximenes and Diogenes make air prior to water, and the most primary of the simple bodies." *ibid.*, 984a3.
250. "while Hippasus of Metapontium and Heraclitus of Ephesus say this of fire," *ibid.*, 984a7.
251. "and Empedocles says it of the four elements (adding a fourth-earth-to those which have been named);" *ibid.*, 984a8.
252. "At least none of those who named one element claimed that earth was the element, evidently because of the coarseness of its grain." *ibid.*, 989a8.

echo Aristotle's own thought, why should it not be included ? (253)  
After all, the poets did propose it as the most primary of bodies  
and it is in accord with the common opinion of men. (254) Again, if  
one reject earth as a principle because of its coarseness, why not  
reject water and air, for these too are coarse in comparison to fire ?  
(255) Another argument for earth's inclusion is that in some way it  
does seem to be the most primitive of bodies. For "if that which is  
later in generation is prior in nature, and that which is connected  
and compounded is later in generation, the contrary of what we have  
been saying must be true-water must be prior to air, and earth to  
water." (256)

Despite this lack of unanimity on the question of what  
is that nature (is it fire, air, water, earth, some or all of them ?),  
there is complete agreement on why each chose the one he did. This  
is the important point that Aristotle wishes to stress. In every

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253. "Yet why, after all, do they not name earth also, as most men  
do ?" *ibid.*, 989a9.

254. "For people say that all things are earth. And Hesiod says  
"earth was produced first of corporeal things; so primitive  
"and popular has the opinion been.)" *ibid.*, 989a10.

255. "According to this argument, then, no one would be right who  
"either says the first principle is any of the elements  
"other than fire, or suppose it to be denser than air but  
"rarer than water." *ibid.*, 989a11-14.

256. *ibid.*, 989a15-18.

case they designated the element of their choice because it was that which, when taken by itself, was unformed, potential, indeterminate (after the fashion of the wood of the bed). Again, one finds complete harmony among the ancient philosophers as to the role of the forms of natural things. All such forms, though they differ, relative to their principle, from the purely artificial form, are similar to the latter in so far as they are nothing more than "affections, states, or dispositions". Just as the artificial form is an incidental attribute, so too the natural form, and for the same reason. It alone is the nature of a thing which is without arrangement. (257)

"Every such thing they held to be eternal (for it could not pass in-  
to anything else) but other things to come into being and cease to  
be times without number." (193a25-27)

There is yet another point upon which the ancients are in agreement. Whatever they held to be the nature of things, all were unanimous on the point of its permanency and stability. The nature of things was eternal. While other things endlessly came into being and ceased to be, nature defied all change, was not subject to move-

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257. "Et haec est una differentia quam ponebant inter principia  
"materialia et formalia, quia dicebant ea differre secundum  
"substantiam et accidens." St Thomas, II Phys., lect. 2, n. 1.

ment, (258) though it was the subject in which movement was received. This had to be so, otherwise it could not be called the principle of movement. The reason which forced the predecessors of Aristotle to attribute an eternity to nature is the very reason behind their choice of matter as nature. It will be to our advantage to examine this reason, since it brings to light the foundation upon which the early naturalist built his doctrine on nature. It will also give us an opportunity to manifest the fundamental difference between Aristotle's concept of matter and that of his predecessors.

The ancient's position on matter (sensible body) as nature and its eternity was the result of his understanding what was entailed in the concept of change and his inability to conceive a permanent substratum such as Aristotle's prime matter. (259) Fully aware of the essence of change (change implies that the changing thing is not that which it is to become through change), the early philosophers realized the urgent need for a substratum, without which change is impossible. For, in the event that there is no substratum, that which is changed substantially, would have had to

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258. "Alia differentia autem est, quia dicebant ea differre secundum perpetuum et corruptibile. Nam quodcumque praemissorum corporum simplicius ponebant esse materiale principium, dicebant illud esse perpetuum: non enim dicebant quod transmutarentur invicem." *ibid.*

259. I Physics, c viii, 191a26-32.

come from nothing and this is impossible. But if <sup>there</sup> (there is a) substratum were to come to be, it would have either being or non-being as its terminus a quo. Both of these make change impossible. If it were to come to be from being, it would already have been what it was supposed to become and hence there would be no becoming. On the other hand, if one should say that it comes to be from non-being, then he would be forced to maintain that something comes from nothing. To escape the dilemma, the early philosophers postulated that the substratum already was, i.e. an existing substance, and was eternal. This they identified as matter, since according to their concept, matter, while not wholly potential, was potential to a certain degree and to that degree capable of being the subject in which change is received.

Aristotle's concept of the degree of potentiality of matter went far beyond that of his predecessors. For them it was something limited. For him it was pure potentiality. For them it was the potentiality of second matter for an accidental form, but for Aristotle it was the potentiality of prime matter for substantial form. As a result of this difference we have the ancient naturalists restricting nature to matter, because to them matter alone is substance. Aristotle, however, thanks to his ability to comprehend a purely potential entity, gives the true version of matter as one of the things called nature.

"This then is one account of 'nature', namely that it is the immediate material substratum of things which have in themselves a principle of motion or change." (158a28-29)

In the beginning of this treatment on matter being nature we mentioned that all that was said on the subject was not to be taken as Aristotle's own doctrine. More especially in the first lines of the exposition we pointed out some of the greater differences that exist between the Aristotelian concept of matter as nature and the concept of the ancients. They are the differences regarding the potential character of the matter and those relative to the role of form. Yet we had insisted that Aristotle was justified in using the reasoning of the ancient naturalists to establish matter as nature. It is our task now to show the basis for our claim. But before we begin, it will not be amiss to point out that the words quoted above which serve as the conclusion to this section, have a twofold interpretation. One is Aristotelian, the other pre-aristotelian. Taken in the pre-aristotelian sense the words 'the immediate material substratum' are to be understood in the manner in which we have exposed them as representing the doctrine of the early naturalists, i.e. as the substratum which is in act in the order of substance, in potency in the order of accidents. Accepted in the Aristotelian sense, these words signify that substratum which is pure potency or prime matter.

Despite his disagreement Aristotle was not guilty of

any mistake in assuming that the doctrine of the ancients would prove sufficient to establish his own idea of matter as nature. And the reason why there was no mistake in the assumption was because both Aristotle and the ancients were in complete accord on the cause why matter should be nature. Why did the early naturalists conclude that matter was nature (abstract from their particular notion of that matter)? Because of its indeterminateness or potentiality. For them, as for Aristotle, nature was the intrinsic principle of the movement by which the thing, which had nature, was moved. Now, in order that such a thing be moved, it is necessary that it be potentially that which it is to become through movement. It is this potentiality in the thing itself that allows for its becoming or changing, it is its cause, i.e. a passive or receiving cause. (260) But that passive cause can only be identified with matter, which is potential, indeterminate. Hence the early philosophers designated matter as nature, because it was the potential, the indeterminate element in natural things. This, too, was the reason why Aristotle called matter nature. He also appreciated the fact that nature was an intrinsic principle of movement in that which is moved, as well

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260. J. a S. Thomae, *Curs. Phil.*, T. II, Q. IX, Art. 2, p. 177b27-33:  
"Quod vero materia et principium passivum habeant rationem  
"naturae, constat, tum quia ipse materia prima per sui trans-  
"mutationem vere est causa motus et susceptionis formarum,  
"ergo vere est principium motus et quietis."

as the fact that potentiality was a requisite for the movement of a thing. For him, then, as for the ancients, that potentiality was the receiving cause of movement and therefore nature.

In connection with the discussion on matter as nature and in a manner, its conclusion, we can say a few words <sup>about</sup> the relation between the modern materialists and the ancient materialists. Very often one meets with the assertion that the lineal descendant of the first Greek philosophers is the modern materialist, that he is the present day proponent of the materialistic thought of these philosophers. Such philosophers as Thales, Anaximenes, Heraclitus, are called the progenitors of modern materialism. The claim, however, is founded on an erroneous interpretation of the word materialist. According to its modern usage the word designates a system of philosophy that is called materialistic because of its firm opposition to the notion of form. In this system form is rigidly and totally excluded and all is explained in terms of matter alone. For the modern materialist form is not a reality. It is nothing more than a figment of the mind, a logical being called into existence by the mind. This is not the signification of the word when applied to the ancient Greeks. For them the word represents a system of thought that admits matter to be the sole substance of things, i.e. their essence. It is not however, the sole reality of things, for the ancients do admit the reality of forms. True, for the Greek as for



the modern materialist, there is an opposition between matter and form, but the opposition is not the same in both cases. Among the predecessors of Aristotle matter and form were opposed as substance and accident, not as something and nothing, the modern conception of the opposition between the two. The very evident difference between the moderns and the ancients is that the last attribute an order to things by reason of form. (261) For them bronze was different from gold, wood from bone, not because of the matter (262) but because of the form which made the matter to be bone or wood, gold or bronze. Granting that the early Greek philosophers were not aristotelian in restricting substance to matter, certainly they cannot be called materialistic in the modern sense, for they did recognize form as a reality.

2) Form is nature.

Text :

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

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261. This order among things attributable to the form is not a substantial order but an accidental order.

262. "But if the material of each of these objects has itself  
"the same relation to something else, say bronze (or gold)  
"to water, bones (or wood) to earth and so on, that (they  
"say) would be their nature and essence. Consequently some  
"assert earth, others fire or air or water or some or all  
"of these, to be the nature of the things that are."  
II Phys., c 1, 193a19-23.

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

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

"We also speak of a thing's nature as being exhibited in the process of growth by which its nature is attained. The 'nature' in this sense is not like 'doctoring', which leads not to the art of doctoring but to health. Doctoring must start from the art, not lead to it. But it is not in this way that nature (in the one sense) is related to nature (in the other). What grows qua growing grows from something into something. Into what then does it grow? Not into that from which it arises but into that to which it tends. The shape then is nature.

"Shape' and 'nature', it should be added, are used in two senses. For the privation too is in a way form. But whether in unqualified coming to be there is privation, i.e. a contrary to what comes to be, we must consider later."

Aristotle now parts company with the early naturalists. They had indeed been useful to him in his task of proving that matter was nature, but on the problem of form and nature he can expect no help from them. To his predecessors the question of form and nature was without meaning. In their opinion form pertained to the order of accidents and could not be nature, for this was a substantial principle. To Aristotle, on the contrary, the question had tremendous significance. In the course of his investigation into the possibility of substantial becoming (263) he had shown that form was substance, just as matter was. This conclusion imposed on him the necessity of examining the relation of form to nature. Had he failed to examine this question, it would have been tantamount to a denial of the validity of his theory on the constitution of mobile being.

In the text quoted Aristotle busies himself with the problem of form and nature. The treatment embraces (a) the conclusion (264), (b) three arguments which establish the conclusion (265) and (c) a distinction on the two senses of form. (266)

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263. I Physics, c vii, 199b30-191a22.

264. II Physics, c i, 193a30.

265. *Ibid.*, 193a51-193b18.

266. *Ibid.*, 193b19-21.

a) The Conclusion - Form is Nature

"Another account is that 'nature' is the shape or form which is specified in the definition of the thing." (183a30)

What is the exact signification of the phrase "shape or form" as used in the text forming the conclusion on the relation of form and nature ? The fact that this "shape or form" is called nature, necessarily leads us to interpret the phrase as signifying substantial form. (237) But we cannot leave the question of signification as though the statement—the phrase signifies substantial form—completely answers it. For there are two meanings to substantial form. It can signify the 'forma totalis' which represents the quiddity or essence of a thing, or the 'forma partialis', which represents the form or determining element of the quiddity, as opposed to the determinable or material part of the essence. (236) Which of the two is the form called nature ?

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237. The interpretation of "shape or form" as substantial form is not the only meaning that can be attached to the words. In VII Physics, lesson 5 the word 'shape' (*figura*) signifies that accidental quality which results from the termination of quantity, while form is defined as that which gives esse specificum to the artificial. Again, and more consonant with the "shape or form" of II Physics in so far as the words appear to be in apposition and not opposition to each other, we have the word 'shape' being called form (VII Physics, *ibid.*, n. 8) and 'form' being called '*figura*' (V Meta., lect. 5, n. 820). Since these various meanings all signify an accident, they are not pertinent here. For nature, which form or shape is called, is a substantial principle.
238. "Unde est alia opinio, quam sequitur Avicenna; et secundum hanc forma totius, quae est ipsa quidditas speciei, differt a forma partis, sicut totum a parte; nam quidditas speciei est composita ex composita ex materia et forma, non tamen ex hac forma et hac materia individuum." VII Meta., lect. 9, n. 1489.

We do not find an absolute unanimity in regard to the interpretation of form-called-nature. Hamelin appears to favor the interpretation of form as 'forma totalis' exclusively. (269) St Thomas, on the other hand, while agreeable to this interpretation, goes one step further and identifies the form or shape with the 'forma partialis' as well. His agreement is indicated in the following statement which serves as his own commentary on the text under discussion :

"Therefore, in the first place he says that in another manner nature is said to be the form and species, which is according to definition, i.e. from which the definition of a thing is constituted." (270)

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269. Op. cit., p. 43: "Simplicius (276, 24) commente d'ailleurs de la façon la plus claire les deux passages qui nous occupent. La forme ( ) a deux sens, l'un celui de contours l'autre celui de notion qui est celui que nous donnons (11 faut lire dans le texte de Simplicius ( et non, avec Diels, Cf. Philop., 215, 8) quand nous définissons l'essence de chaque chose; le premier se rapporte aux contours seuls, c'est-à-dire à la figure, à la couleur, à la grandeur de la surface; le second à la notion, c'est-à-dire à ce type unique et sans pareil que développe la définition et qui, comme le nom, est coextensif à la définition La forme en ce sens comprend d'ailleurs les contours ( eux-mêmes. C'est cette forme-là dans le sens de notion, qu'il appelle la nature."

270. "Dicit ergo primo quod alio modo dicitur natura forma et species quae est secundum rationem, i.e. ex qua ratio rei constituitur." II Phys., lect. 2, n. 3.

There can be no doubt that St Thomas here means that nature is the total form, for in VII Metaphysics he tells us that sensible matter is part of the essence of natural things, the type of things pertinent to this problem, (271) and only the 'forma totalis' includes this element. But on the occasion of the first argument given by Aristotle as proof of form being nature, St Thomas remarks :

"Therefore the nature of natural things, having in themselves a principle of movement, is in another manner the form: which, while not separated from the matter according to the reality, is nevertheless different from it by definition." (272)

That St Thomas is here speaking of the 'forma partialis', is quite evident from the words : "is nevertheless different from it by definition." The form is mentioned as opposed to matter. This sense cannot be applied to the 'forma totalis', for this is representative of the essence. It must be applicable to the 'forma partialis' which, as the determining constituent, is distinct from the material or determinable element.

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271. "Unde relinquitur quod materia sensibilis sit pars essentiae substantiarum naturalium, non solum quantum ad individuum, sed etiam quantum ad species ipsas." (St Thomas) VII Meta., lect. 9, n. 1433.

272. "Ergo natura rerum naturalium habentium in se principium motus, alio modo etiam forma est: quae licet non separatur a materia secundum rem, tamen differt ab ea ratione." II Phys., lect. 2, n. 3.

Which of the two opinions is preferable, Haselin's or St Thomas' ? When we examine in detail the first argument used by Aristotle to prove that nature is form, we shall see that St Thomas is correct in saying that the 'forma totalis' and the 'forma partialis' are nature.

b) The Argument - Form is Nature Because

1) It is that by which the natural thing is constituted.

"For the word 'nature' is applied to what is according to nature and the natural in the same way as 'art' is applied to what is 'artistis or a work of art.'" (193a31-33)

This first argument is based on the analogy that exists between art and nature. Very frequently Aristotle makes use of art and the artificial to manifest nature and the natural, (273) but here their use is not one of manifestation or exemplification. Their role is one of establishing or proving. What Aristotle intends to conclude from this first argument is that form is nature because the artificial thing is only artificial by reason of the form. The validity of art and the artificial to prove a conclusion of nature and the natural is not touched here. In this place he is content to state the fact of the analogy and go on from there. Later he will

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273. I Physics, c vii, 191a8-12; II Physics, ci, 193a11.

explicitly mention the foundation which is its justification. (374)

We should not say in the latter case that there is anything artistic about a thing, if it is a bed only potentially, not yet having the form of a bed, nor should we call it a work of art. (108a32-35)

When is a thing a work of art ? an artificial thing ? When it is merely unformed matter, like wood or bronze or stone, or when it is formed, i.e. a bed, a statue ? Certainly no one calls the unfigured wood a work of art. It only receives that denomination when it receives the design or form. The matter out of which the work of art comes is, only potentially a work of art because it is capable of being formed. To become an actual work of art, it is necessary that its potential formability be reduced to act though form. Hence a thing is a work of art by reason of the form of art, e.g. when it is a figured thing.

"The same is true of natural compounds. What is potentially flesh or bone has not yet its own 'nature', and does not exist by 'nature', until it receives the form specified in the definition, which we name in defining what flesh or bone is." (108a35-38)

Having shown that the artificial qua artificial depends upon the form and not upon the unfigured matter in order that it be a work of art, Aristotle now proves the same role of form in



natural things. What is flesh or bone potentially does not yet possess the nature or essence of flesh or bone. All there is, is a matter with a capacity to be these things, but which of itself is no more flesh or bone, than the uncarved wood is a work of art. Furthermore, this potential flesh or bone, qua potential, does not exist 'by nature', (i.e. potential flesh or bone does not become actual flesh or bone, which becoming is attributable only to 'nature', since both flesh and bone are natural compounds and not artificial things) until the form or essence by which we define flesh and bone is received. The fact that what is potential flesh or bone, like the thing that is only potentially a bed, lacks the essence of flesh or bone, coupled with this additional fact, namely that flesh or bone which is only potential, cannot exist as actual flesh or bone, until it receive the total form or essence, makes inevitable the following conclusion. Since flesh and bone are natural compounds and therefore have nature for their principle, and further, since, being merely potentially one and the other, they lack the form or essence of flesh or bone and therefore, not having nature, they cannot exist by that nature, it follows that nature is the total form or essence.

"Thus in the second sense of 'nature' it would be the shape or form (not separable except in statement) of things which have in themselves a source of motion." (193b2-8)

We had already pointed out the conclusion that is

reached from the argument based on the analogy of art and nature. In the light of the words contained in the parenthesis, it is necessary that we reconsider it in order that we might grasp its full significance. Ross sees nothing new added to the conclusion by way of possible extension. He explains the parenthesis as nothing more than an insertion made by Aristotle to distinguish form or essence as he conceived it from the Platonic concept. (275) This explanation has merit, since the present discussion presented an opportune place for Aristotle to point out the difference between his idea on form and Plato's. St Thomas, however, offers another explanation and one that is much more pertinent to the subject. To him the parenthesis represents an extension of the original conclusion. As stated originally, the word 'form' seemed to indicate the essence or total form and argument based on the analogy of art and nature established this 'form' as nature. But, according to St Thomas, the statement-" not separable except in statement "- bears not so much on the form as essence, but rather on the partial form and indicates that this form too is nature. This idea has great importance, for it is actually the medium by which the total form or the species is shown to be nature. For, if the 'forma partialis', which is opposed, according to definition, to the matter, is not nature, then neither

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275. Op. cit., p. 504. "  
Aristotle's from the Platonic

is added to distinguish  
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can the species be nature. The species or total form is said to be the principle by which that which is potentially a natural thing, becomes an actual natural thing. It is because of the species or total form that the thing is said to have 'nature' and to exist 'by nature'. Now this total form or species embraces both matter and form (276), i.e. what is potential and what is actual. But whence comes that element of actuality? Certainly it cannot be traced to the matter, for matter is not a source of act. It must come, then, from the form, understood as the 'forma partialis' and as such, opposed to the matter as determining to determinable. In other words, that the species or total form is nature is due to this, that the 'forma partialis' is nature. *Unumquodque tale et illud magis.*

"(The combination of the two, e.g. man, is not 'nature' but 'by nature' or 'natural'." (183b6-8)

Aristotle here says that the composite of matter and form is not nature. At most it is 'by nature' or 'natural'. Does this not seem to contradict what he had just finished proving, namely that the species or essence is nature?

It is John of St Thomas who provides us with the

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276. "et secundum hanc formam totius, quae est ipsa quidditas speciei, differt a forma partis, sicut totum a parte: nam quidditas speciei est composita ex materia et ex forma, non tamen ex hac forma et ex hac materia individua." St Thomas, VII Meta., lect. 9, n. 1469.

solution of the apparent contradictory statements. Through a distinction made by him relative to the combination which is the suppositum, and the combination which is the species or essence, we are able to resolve the difficulty. What Aristotle refuses to denominate as nature in this place is not the combination which is the species or total form, but that which is the suppositum. This latter in no way agrees with the definition of nature. The suppositum is a 'principiatum' and a 'quod', i.e. something that exists, while nature is a 'principium' and a 'quo'; that 'by which' something exists. (277) On the other hand, the combination which is the species or total form, meets all the requirements of the definition of nature. To be nature it is necessary that the thing be (1) a 'primum principium'. This is to be understood in the sense of substantial and radical as opposed to instrumental and accidental, and not in the sense of partial. (278) Again, in order to be 'nature', the thing must be (2) a principle of movement in the thing that is moved. That the species or total form fulfills all these conditions and therefore

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277. J. a S. Thom. Curs. Phil., T.II, Q. IX, Art. 2, p. 174a17-22:  
"Itaque compositum (si totum compositum sumitur pro supposito  
"subsistente in concreto) est principiatum, non principium, na-  
"tura autem principium est motus et quietis, quia est id quo  
"aliquid est tale, non est id, quod est tale."

278. Ibid, p. 176a40-b5: "Ad fundamentum oppositum respondetur, quod  
"in definitione naturae, quando dicitur, quod est principium  
"primum, ly 'primum' idem est quod substantiale et radicale, ut  
"opponitur accidentali et instrumentali, non autem oportet, quod  
"sit primum partiale et per modum primi elementi."

is nature, is not too difficult to prove. It is a first principle because it is the substantial, radical and total principle in virtue of which the thing is what it is. In other words, it is the principle in constituting the thing, i.e. as the quiddity. Though the species is something generated, it is the 'quo' terminus of the generation and not the terminus 'quod'. Now relative to the terminus 'quod' the species is in the line of substantial principles, for that which functions as a 'principium quo' is the principle of that which has the role of a 'quod', (279) and therefore the species is a first principle. It is moreover a principle of movement. Because the species is the root of all the powers that pertain to the thing constituted by the species, it is also the principle of those operations that proceed from those powers. (280) This suffices to justify the denomination of the species as nature, which is the principle not only of generation, but also of other movements, such as local movement, alteration and growth. (281) It should be noted,

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279. Ibid, p. 178b5-12: "Quod vero dicitur humanitatem esse genitam, non vere principium generationis, respondetur humanitatem esse genitam ut 'quo', non ut 'quod', et sic manet intra lineam principii substantialis; id enim quod se habet ut quo, est principium eius, quod se habet ut quod.

280. "Nec solum est principium in constituendo et ut quidditas, sed etiam in operando et in ratione motus, quia humanitas est radix potentialium, ergo et operationum." Ibid, b12-17.

281. Ibid, b17-21: "Non autem requiritur, quod natura sit principium generationis, sed sufficit, quod alterius motus, nam in eo datur natura, et non principium generationis."

however, that the species or total form is not nature as unqualifiedly are matter and the partial form, for it is itself a principiatum, the result of the union of form and matter. (282) This is why St Thomas, when speaking of the species as nature in reference to matter and form as nature, usually intends 'nature' in the first instance as the term of generation, while in the second as the principles of generation. (283)

"The form indeed is 'nature' rather than the matter; for a thing is more properly said to be what it is when it has attained to fulfillment than when it exists potentially." (1957-8)

If a thing, natural or artificial, is more properly designated such when it is not merely potentially but actually that, then it follows that the element responsible for making the thing actually so, is nature or art. In the case of the natural thing this element is the form and consequently the form is nature rather than matter. But which form, the species or the partial form? Both. For the natural thing owes its actuality to the species, as the principle constituting it, and to the partial form, as the principle of

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282. "Nam generatio terminatur ad speciem generati, quae resultat ex unione formae et materiae." St Thomas, V Meta., lect. 5, n. 822.

283. "Sicut autem forma vel materia dicebatur natura, quia est principium generationis, quae secundum primum nominis impositionem natura dicitur; ita species et substantia dicitur natura, quia est finis generationis." ibid.

its generation.

But what of matter ? If the form is nature rather than matter, does this mean that matter is not nature, or, if it is called nature, it is only improperly so ? The answer to these questions is of course negative. Matter is nature and properly so, for in its own order, that of material cause, it is a per se principle of generation and that independently of form. (284) Aristotle's preference for form over matter as nature is not due to this that form is properly nature and the matter only so analogically. It is due to a comparison of the role each plays in making a thing natural. Matter is the principle which renders possible the making, while form is the principle which actually effects the making. (285)

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284. J. & S. Thomae, Curs. Phil., T. II, p. 179a30-40: "Et ratio sumitur ex dictis, quia principium passivum vere et proprie habet rationem naturae, et non habet esse principium exis motus dependentem aut participative a forma. Nam per se est principium generationis in suo ordine, scilicet ut causa materialis, - - - -; ergo non est, cui a propria et univoca ratione naturae excludatur."

285. Ibid., p. 180a22-33: "Ad secundum locum ex Physicis dicitur, 'quod materia magis natura non quod ly magis dicat analogiam, sed principalitatem et comparationem. Hinc autem stat quod inter univoca unus sit principalius et perfectius aliter, sicut homo leone in genere animalis. Et ita est magis natura specificis, non genericis, inaequalitate se tenente ex parte speciei, non ex parte generis participati; sed hoc analogiam non facit.'"

11) it is that which comes about through generation.

"Again man is born of man, but not bed from bed. That is why people say that the figure is not the nature of a bed, but wood is. If the bed sprouted not a bed but wood would come up. But even if the figure is art, then on the same principle the shape of man is his nature. For man is born from man." (155b6-1E)

This next argument is founded on the commonly admitted fact that the form of generation is nature. It is the same proof which Antiphon used to show that matter was nature. (236) But while he was of the opinion that it established matter alone as nature, since it manifested matter as permanent. (237) Aristotle now shows that it also proves that form is nature.

Man is born from man, or more generally, natural things produce something similar to themselves. This, however, is not true of the work of art. A bed does not generate a bed, because its principle is extrinsic, while generation is from an internal principle. And because the figure of the bed is not the product of generation, every one is unanimous in saying that the figure is not the nature of the bed, i.e. the internal principle of that which has in itself a principle of movement. The bed's nature, as Antiphon, had shown, is wood, for, were a bed to send up a shoot, that shoot would be wood.

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236. II Physics, c 1, 193a11-14.

237. Ibid, a17.



Now if the form which is not brought about through generation is not nature, then the form that is the product of generation must be nature. (208) If one is true, then so is the other. If the reason excluding the figure of the bed from being nature is that it is not the product of generation, then the fact that a certain form is the result of generation is proof that such a form is nature. Now, as has been said, man is born of man, and, therefore, since he is the term of generation, he must either be nature or have a nature. The first cannot be true, for man is the suppositum or persona which exists and which is not nature. What then is the nature of man who is generated ?

Up to this point Aristotle has been contrasting art and nature, emphasising their difference. He now turns to their similarity in order to answer the question. Despite the fact that the figure of the bed is artificial and not nature, the dependence of the artificial thing, qua artificial, on the figure proves that form is nature. The wood is not a bed save potentially. To be actually a bed, it must possess the figure or form. Hence the form or figure is what makes the artificial artificial. On the same principle form of the natural thing is nature. For what is not in

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208. "Sicut igitur haec forma, quae non redit per germinationem, non est natura sed ars; ita forma quae redit per generationem, est natura." II Physics, lect. 2, n. 8.

possession of the form of man can neither be said to have the nature of man nor to exist by this nature. And since man is born from man, i.e. not merely a potential man but an actual one, and it is by reason of the form that man is said to be actually a man, form must be nature. We might add here, in order to avoid confusion, that the term 'form' signifies both the species or total form and the partial form. The partial form is nature in the sense of the principle by which generation takes place, and the species or total form is the principle by which the term is constituted.

Antiphon had remarked the stability and permanency of matter in generation, saying that it persisted throughout the process of making. Aristotle, by proving that it is form which is the terminus of every generation, establishes a like permanency for form. It is always form that is generated.

iii) It is the term of generation.

"We also speak of a thing's 'nature' as being exhibited in the process of growth by which nature is attained. The 'nature' in this sense is not like 'doctoring', which leads not to the art of doctoring but to 'health.'" (195b13-18)

This third and last argument is centered about the notion of nature as generation, the primary meaning of the word in the order of naming. As St Thomas points out in his commentary on V

Metaphysics (285), this sense of nature is the first because generation or nativity is the most obvious relative to natural things. Natural things begin to be in virtue of an internal principle, while the artificial owes its beginning to an extrinsic one. Since forms and powers are known to us only through their activity, the name, nature, has as its primary meaning, the act of coming to be. (290) Before examining the argument itself, it is well to point out the difference between this and the second proof. In the latter the notion of nature as nativity was employed as the means of differentiating between the form that is nature and the form that is artificial. The emphasis, however, in the two proofs is not the same. In the second argument all the interest is centered on the terminus of the generation, and the generation itself was spoken of only in terms of its term. Here, in the third argument, Aristotle devotes himself to the examination of generation itself.

As the first step towards proving that form is nature from the idea of nature as nativity or generation, he mentions the universal acceptance of generation or nativity as a means of exhibiting a thing's nature. This fact he had already alluded to, when,

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289. V Meta., lect. 5, n. 824.

290. "Quia enim formae et virtutes rerum ex actibus cognoscuntur, per prius ipsa generatio vel nativitas, naturae nomen accipit et ultimo forma." *ibid.*

in the previous argument, he noted that people said that the figure of a bed was not its nature because it was not the result of generation. Next he distinguishes this sense of nature from 'doctoring'. Both are processes that end in producing but there the likeness ceases, for doctoring does not terminate in the production of the art of doctoring but in health. What is the importance of this distinction of which only one member is explicitly mentioned?

"Doctoring must start from the art, not lead to it. But it is not in this way that nature (in one sense) is related to nature (in the other). What grows when growing, grows from something into something. Into what does it grow? Not into that from which it grows, but into that to which it tends. The shape then is nature."  
(1985b-18)

To understand these words, it is well to study what St Thomas has to say. While the quotation is somewhat lengthy, the help it gives us in penetrating into the argument of Aristotle justifies its incorporation. This is the citation.

"Nature can be taken as generation, for instance if nature is called nativity. Thus, therefore, nature taken as generation, i.e. as nativity, is the way to nature. For this is the difference between actions and passions, that actions are denominated from the principles, passions from the terms. For each thing is denominated by act, which is the principle of action and the terminus of passion. For it is not so in passions as in actions: doctoring is not said to be the way to medicine, but to health; for it is necessary that doctoring be from medicine, not to medicine. But nature, taken as generation, i.e. nativity, does not have itself to nature as doctoring

"to medicine: but it has itself to nature as to the terminus, since it is a passion. For what is born, goes from something to something in so far as it is born: whence that which is born, is denominated by that to which, not by that from which. That, however, towards which nativity tends, is the form: the form, therefore, is nature." (291)

Let us first point out the distinction that exists between nature-generation and doctoring and then the conclusion that arises from this distinction. Nature-generation and doctoring are not the same. 'Doctoring' is an action, i.e. the act of the active thing, in this instance the art of medicine, because it is productive of health. Though it tends towards health, it is not called 'healthing' because actions are named or denominated by their principle whose 'actus secundus' or actuality they are. Nature-generation, however, is not an action. It is not, like doctoring, productive,

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291. "Natura potest significari ut generatio, puta si natura dicatur nativitas. Sic igitur natura dicta ut generatio, idest nativitas est via ad naturam. Haec enim est differentia inter actiones et passiones, quod actiones denominantur a principiis, passiones a terminis. Utroqueque enim denominatur ab actu, qui est principium actionis et terminus passionis. Non enim ita est in passionibus sicut in actionibus: medicatio enim non dicitur via in medicinam, sed in sanitatem; necesse est enim quod medicatio sit a medicina, non in medicinam. Sed natura dicta ut generatio, idest nativitas, non sic se habet ad naturam sicut ad terminum, cum sit passio. Id enim quod nascitur, a quodam in quoddam venit inquantum nascitur: unde id quod nascitur, denominatur ab eo in quod, non ab eo ex quo. Id autem in quod tendit nativitas, est forma: forma igitur est natura." II Phys., lect. 2, n. 7.

rather it is production. Being production, it cannot be the act of the generator, which is generating, but must be the act of the thing generated qua being generated. Nature-generation, then, is nothing more than the coming to be of the thing that comes to be. It is the act of the passive thing, hence a passion. Now a passion, because it is the act of the passive thing that is effected by action, must receive its designation from its term. Everything is named from act and that which is act in 'coming-to-be' is the term or thing that has been generated. Therefore nature-generation is so denominated because of its term, nature. It is, then, the 'via ad naturam'.

Since nature-generation is called such by reason of its term, then that term is even more nature than the generation, since it is in virtue of the term that the latter is nature. But what is the term towards which this generation tends? It must be form, for a thing can only be said to have its nature when it receives the shape or form that is designated in its definition.

"Shape" and "nature", it should be added, are used in two senses. For the privation too is in a way form. But whether in unqualified coming to be there is privation, i.e. a contrary to what comes to be, we must consider later." (193b19-21)

These lines represent Aristotle's response to an unspoken objection. He had concluded from the arguments based on nature-generation and the term of generation being nature, that form

was nature. But there is an objection against these arguments. If one says that the term of generation being nature and nature-generation prove that form is nature on the grounds that generation is admittedly nature and its term is the form, then on somewhat similar grounds one should conclude that form is not nature. Corruption is natural by reason of matter, (202) and its term is not form but the destruction of form, for corruption is the ceasing to be of what is. If, therefore, generation and its term are acceptable as media to prove form is nature, corruption and its term should be equally acceptable as media proving form is not nature. Hence the second and third proofs do not conclusively establish form as nature.

In his response Aristotle points out that corruption is not the way to pure nothingness. Its term is not a simple negation, but rather privation, i.e. the negation of a form in a subject apt to have that form. In a certain manner, Aristotle says, this privation is form and because it is form, corruption is a way to form and its term is form. Therefore it is not true that the second and third proofs are inconclusive. All this, however, is contingent on the propriety of calling privation a form. If it really be a form then there can be no doubt that form is nature, whether one proceeds from

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202. J. u S. Thoma, Curs. Phil., T. II, p. 178a37-39: "sicut est (principium passivum) principium corruptionis et ad illam habet naturalem inclinationem;"

generation or its term, or from corruption and its term. In both cases form will be the reason for designating the one and the other in terms of nature. But is privation form?

When Aristotle speaks here of privation being 'in a way' form, he is speaking of privation in connection with contraries. This is evident from the question which he proposes about the presence of privation in substantial becoming (293) and which follows upon the declaration of privation being form. But how does privation become 'in a way' form by being joined with or to a contrary? St Thomas states the answer very succinctly. He says: "for whiteness is a complete form, and the privation of whiteness is in some manner a species, in so far as it is joined to blackness, which is an imperfect form." (294) Examined more closely the reasoning is this. The privation of whiteness is not said to be a form 'in some way' absolutely and by itself, but only when it is joined to the contrary of whiteness, blackness. Why is this? First of all, taken by itself the privation is merely a negation of form and as such cannot be conceived as a species of the form whose absence it denotes. But when taken in conjunction with the contrary form, it is no longer merely a

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293. "But whether in unqualified coming to be there is privation, i.e. a contrary to what comes to be, we must consider later." II Physics, c 1, 193b20.

294. "nam albedo est forma completa, et privatio albedinis est quodammodo species, in quantum coniungitur nigredini, quae est forma imperfecta." II Phys., lect. 2, n. 8.



negation of form but is clothed with a function that is distinctive of form. The black thing, qua having the form of blackness, is deprived of having whiteness for which it has a capacity. This unfilled capacity is a privation. Now this privation of whiteness is that which gives direction to the movement of the black thing, i.e. because of the privation of whiteness the movement of the black object will always be towards the form of whiteness. This must be, otherwise there will be no change. Therefore the privation has a determining effect or influence on the black thing qua black. But to be a determining influence is proper to form, whose being is to make a thing something determined. Hence privation is 'in a way' form. The qualification, 'in a way', must be added for the influence of privation on the black thing is not that of form itself. The latter makes the black thing a white thing, while the privation only directs the black thing, in so far as it has blackness, towards whiteness. The disparity between the two as determinants is the reason why St Thomas calls one the complete form and the other the incomplete form. It should be noted, however, that nature is both. (295)

But this position on privation being form, while it enables Aristotle to resolve the difficulty of corruption and its term and their influence on the second and third proofs of nature

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295. "Deinde cum dicit: Sed forma et natura etc., ostendit quod 'natura quae est forma dupliciter dicitur, scilicet de forma 'incompleta et forma completa.' II Phys., ibid.

being form, involves him in another difficulty. He manifests his awareness of this new problem when he mentions that the presence of privation, "i.e. a contrary of what comes to be", in unqualified becoming must yet be investigated. This is the new problem. Privation, the term of corruption and generation, (296) is actually an incomplete form in so far as it is joined to a contrary form. It would seem, then, that the principle of becoming is not the opposition between privation and habitude, but the opposition between contrary forms. In that event, what becomes of substantial change? If the opposition that is essential to becoming is that which exists between contrary forms, substantial becoming is impossible. As Aristotle himself says, there is no contrariety among substances. (297) As the text of the *Physics* reveals, Aristotle does no more about this new problem than indicate his awareness of it. For the present this is sufficient. His intention was to solve a particular problem that arose in connection with the proofs on form being nature. Having accomplished

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296. Privation is the term 'a quo' of generation, and the term 'ad quem' of corruption.

297. "Another mark of substance is that it has no contrary. What could be the contrary of any primary substance, such as the individual man or animal? It has none. Nor can the species or the genus have a contrary." *Categories*, c 7, 3b24-25.

This by showing that privation was form, he felt no obligation to undertake a new problem, which would be better treated, when he would consider the species of movement. (298)

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298. De Generatione et Corruptione, I, c 111. On this question of substance and contrariety see St Thomas, V Phys., lect. 3, nn. 4-6; II Meta., lect. 12, nn. 2378-2384; J. a S. Thomae, Curs. Phil., T. II, Q. 2, art. 2, p. 44b46- p. 46b2.

Chapter VI

The Mathematician And The Physicist

Their Distinction (299)

I) Division of Treatise :

- 1) A New Inquiry : Is the Mathematician different from the Physicist ? (193b22)
- 2) The Reasonableness of This Inquiry: The two do not seem to be different, for
  - a) They both consider the same subject-matter (193b23-24)
  - b) Astronomy pertains to the Physicist and to the Mathematician (193b25-30)
- 3) The Answer:
  - a) They are distinct : (193b31-36)
    - i) Proof of their distinction. (b31-33)
    - ii) A corollary on abstraction and truth. (b33-34)
    - iii) A Platonic error. (b35-36)
  - b) In confirmation of their distinction (194a1-10)
    - i) we have the diverse modes of defining proper to one and the other. (a1-5)
    - ii) and the fact that physico-mathematical sciences are formally mathematical, and only terminatively physical. (a6-10)