Some Aspects of Aristotelian Teleology

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Anyone who proposes that there is a design in the cosmos owes it to his audience to answer a number of further questions. Is the design someone's design? If so, is God the *final* cause of things only, the goal to which all things aspire? Or is he also the efficient or moving cause? And if he is not the moving cause, what is the nature of the movement in the things which aspire to him? Must these things in some sense be alive themselves? And must they not only be alive but also conscious? According to Sir David Ross,[1] "Unconscious teleology implies a purpose which is not the purpose of any mind, and hence not a purpose at all. But Aristotle's language suggests that he (like many modern thinkers) did not feel this difficulty, and that, for the most part, he was content to work with the notion of an unconscious purpose in nature itself." If it is true, as in general I believe it is, that Aristotle did not feel this difficulty, it will be illuminating to attempt to see why he did not feel it. Such an enquiry, if properly carried out—and what is to follow is only a tentative beginning—can throw light not only on Aristotelian teleology itself, but on the relation of form and matter, of potentiality and actuality, in his philosophical outlook, and on certain aspects of his opposition to the Platonic theory of forms.

Mr. Thomas Gould has recently drawn our attention to some very curious language used by Plato about the relation of forms and particulars in the *Phaedo*, without, however, explaining the full significance of it or examining all the details of Aristotle's reaction to it.[2] This language occurs in the now notorious discussion of equals and the form of Equality at 75A–C. The relevant sentences are as follows: (a) "All these things are striving (ὀρέγεται) to be like the equal, but are inadequate to it"; (b) "We must recognize through the senses that all sensible equals

[1] W. D. Ross, *Aristotle*[5] (London 1949) 186.

[2] T. Gould, *Platonic Love* (New York 1963) 77.

strive for (ὀρέγεται) that which is really equal and are inadequate to it"; and (c) "We must see that all such things yearn (προθυμεῖται) to be like the equal and are inferior to it." These sentences, which in their language at least are unique in Plato, suggest that he had some idea that the relation between the form and the particular could be understood if all particulars had some sort of almost instinctive urge for completion within themselves. It is well known that in the *Phaedo*, as Aristotle frequently complained, efficient causation is not immediately apparent, but if Plato supposed that such a power as we have described existed in the particulars, he might seem to have less need of it.

Now we know from Plato's later writings that, whatever he thought of this idea at the time of the *Phaedo*, he eventually preferred to think of soul as the efficient cause in the world and to suppose that soul is responsible for the movement of body and for its development. Soul cares for the soulless, Socrates observes in the *Phaedrus* (246B). In other words, Plato has apparently abandoned the idea suggested in the *Phaedo* of an instinctive striving for perfection inherent in all things animate and inanimate. But in what sense has he abandoned it? Apart from the remarks of Aristotle on this subject we should at least mention the role of the world-soul in Plato's later thought. In the *Phaedrus* passage mentioned above we can observe that, in its care for the soulless, soul in general "traverses the whole heaven." There is no doubt, of course, that Plato posits a world-soul in the *Timaeus*, a soul somehow permanently associated with matter and somehow endowing the whole cosmos with life.[3] Could it not be that the eternal connection of the world-soul with the body of the world is some kind of compromise between the idea that an external soul brings particulars into the likeness of forms and the idea of the *Phaedo* that particulars themselves have some kind of urge within themselves to attain perfection?

Frequently when Aristotle refers to the theory of forms he refers to the theory as expounded in the *Phaedo*.[4] It is highly probable that it is to that dialogue he alludes in an interesting section of the *Eudemian Ethics* (1218A). The relevant passage deals with the *telos* of life, and Aristotle is discussing the view of the Platonists that a metaphysical entity, the form of the Good, provides the key to human happiness. In the course of this

[3] Cf. *Philebus* 30A. [4] E.g. *Met.* 991B, *De Gen. et Corr.* 335B.

discussion he seems to allude, among other Platonic sources, to our passage of the *Phaedo*. The whole section runs as follows: "It is a risky way of demonstrating that the Good itself is unity to say that the numbers desire it (ἐφίενται). For the Platonists do not say clearly how they desire it but they use the word in too unqualified a manner. How could one suppose that appetition (ὄρεξις) existed in things without life?" And a little later Aristotle adds: "The statement that all things desire (ἐφίεσθαι) some one good is not true, for each thing seeks (ὀρέγεται) its own good, the eye sight, the body health, and so on." There is no doubt that Aristotle knew from the *Phaedo*, but obviously not only from the *Phaedo*, that according to the Platonists there is a universal desire for perfection and for the Good itself inherent in all things. Doubtless the Good, which, as we know from the *Republic* (509), is present in all the forms, appears as the individual form in individual cases. Thus the particular equals will strive for the good of equality, the particular beauties for the good of beauty, and similarly in all other cases. Yet, however the details of the system were supposed to work, we can see that Aristotle objected particularly to its universalizing aspects. In the passage of the *Eudemian Ethics* he is apparently objecting in the first instance to the notion that appetition (*orexis*) can be present in inanimate objects; and yet he later suggests that each thing does have an *orexis*, only not a universal *orexis*, but that the eye desires sight and the body desires health. Now perhaps one might say that the examples which he has chosen are animate things; but yet it might seem as though it were not the eye that desired sight but the soul, not the body that desired health, but the soul that desired the health of the body. It is most unfortunate that the only examples of *orexis* which Aristotle cites are of this ambiguous kind, so that we cannot be sure what exactly he means by his query: "How can one suppose that *orexis* exists in what does not have life?"

Undoubtedly we can only proceed further by considering the nature of what has the least claim to being animate in Aristotle's world, namely the four sublunary elements, earth, air, fire, and water. These elements, as we learn particularly from the third book of the *De Caelo*, have certain natural motions, earth and water downwards, air and fire upwards.[5] At all times, therefore, the

[5] Cf. *Tim.* 52E5–53A2.

elements of material things are tending in an upward and downward direction and are only held in place by a complicated balance of forces. Elsewhere in the *De Caelo* (310A34) we learn that this natural movement is a movement towards the achievement of the form of the element concerned.[6] So long as the elements are not in their natural places, therefore, there is something unrealized and potential about them. The form of fire, for example, always and necessarily involves certain movements of fire, and these movements will always tend towards what is naturally "above".

We see then that the natural movements of the four elements are certain tendencies in those elements as they exist in the sensible world. The commentators are certain that these tendencies have nothing to do with the elements themselves being in any sense alive. Here for example is Professor Guthrie: "Now it need hardly be said that Aristotle did not intend to attribute the movement of the sublunary elements to the fact that they were alive."[7] Guthrie is led to make this remark in the course of his discussion of the relation of the movement of the four sublunary elements to that of the fifth element, the celestial element which is normally held by Aristotle to be ensouled. Our problem is whether Aristotle would have agreed wholeheartedly with Guthrie.

Consider, for example, the questions which open the eighth book of the *Physics*.

> Did motion ever come into existence when it did not exist before? Will it pass away again so that nothing is moved? Or did it neither come to be and will it never cease to be, so that it has always existed and always will exist as a deathless and unfailing quality of things, like some sort of life belonging to everything constituted by nature?

Basically we know Aristotle's answer to these questions. Motion did not begin in time; it is from eternity. Hence his answer would seem to be that it has always existed and will always exist as a deathless and unfailing quality of things, like some sort of life belonging to everything constituted by nature. Let us notice

[6] I am indebted here to an illuminating paper on "Aristotle on *Κίνησις*," read by A. L. Peck to the Society for Ancient Greek Philosophy in December 1963 and as yet unpublished.

[7] W. K. C. Guthrie, Introduction to Loeb *De Caelo* (Cambridge [Mass.] 1939) xxxii.

Aristotle's sequence of thought: motion is eternal in the natural realm, the realm of things that in fact is defined as admitting of motion and rest; and since there is motion there is something quasi-lifelike. Could we go on and say that what is quasi-lifelike could have quasi-lifelike qualities and faculties; for example, the faculty of desire? Could one say therefore that this is the sense in which matter might desire its own perfection, as the eyes desire sight and the body health?

This passage from the *Physics* does not stand alone. We may compare it with a section from the third book of the *De Generatione Animalium* (762A19–22). Here, in a discussion of the possibilities of the spontaneous generation of lower forms of animal life from matter, Aristotle writes as follows: "Animals and plants are formed in the earth and in the wet because water is present in earth and *pneuma* is present in water and in all *pneuma* there is present soul-heat (*θερμότητα ψυχικήν*), so that in a sense all things are full of soul." Now commentators on Aristotle often praise him for refusing to draw a sharp line between the living and the lifeless—without considering the full consequences of this refusal for his own system. Such commentators are right to draw attention to passages like the following from the *Historia Animalium* (588B5–6): "Nature proceeds little by little from things lifeless to animal life in such a way that it is impossible to determine the exact line of demarcation, nor on which side of that line an intermediate form should lie."[8] Now in our passage of the *De Generatione Animalium* the consequences of this insight are clear. There is some kind of soul-substance present in all matter, and, we must assume, this soul-substance will have certain effects which will give matter certain characteristics of what we should normally call soul. And if we now return to the passage of the *Physics* we can see that these soul-like characteristics of matter may in fact be connected with the natural motions of matter, for the *Physics* suggests that where there is motion there is something quasi-lifelike. And we must not forget that this natural motion, which is caused by something lifelike in matter, is an attempt to realize the full potentialities of each of the four sublunary elements.

We are now in a position to consider a further passage from the *Physics*, this time from the first book, at 192A13–25. Once again Aristotle is arguing against the Platonists. In his view they fail

[8] Cf. *De Partibus Animalium* 681A12.

to discriminate between matter and the privation of form. According to Aristotle, since there is in the cosmos something divine and good and desirable, namely the Prime Mover,[9] we can illuminate the difference between matter and privation by reference to this primary object of desire. Privation then is simply a negation, an opposite of what is desirable; matter, on the other hand, has a nature of such a kind as to desire (ἐφίεσθαι) and yearn for (ὀρέγεσθαι) the good. The suggestion that underlies this passage—referred to by Ross as "a bold metaphor"[10]—is what we have found in other parts of the Aristotelian corpus, namely that there is some kind of desire inherent in matter. This desire, we may assume, is in some way connected with matter's "soul-like" or "lifelike" elements.

Now that we know that there is some kind of desire inherent in matter, we can recognize that this fact may be seen as only one of the implications of that much-neglected cliché of Aristotelianism, namely that matter does not exist *per se* but is relative to form. Ross remarks that "in Aristotle's system, taken strictly, matter does not desire form nor strive towards it."[11] This statement is in fact only true of prime matter, not of even the most basic forms of actually existing matter, namely the four elements. All informed matter then in the sublunary world would seem to have a certain kind of desiring faculty, a desire for the achievement of its proper place and for the fulfillment of its potentialities.

Now that these aspects of sublunary matter are clear we are in a better position to understand certain problems of the Aristotelian cosmos as a whole. In the first book of the *De Caelo* Aristotle tries to show that the circular movement of the fifth and celestial element is parallel to the rectilinear movements of the sublunary elements. Now this fifth element is that element of which the first heaven is composed, and the first heaven, as we know from Book *Λ* of the *Metaphysics*, is moved by desire for the Prime Mover (1072B34). We can see therefore that in one important respect the nature of the celestial element and those of the sublunary elements are comparable. All are permeated by some kind of striving-faculty, some kind of desire for completion. It is

[9] This kind of language is also used of the Prime Mover—with more Platonic emphases ("the eternal beautiful, truly and primarily good")—at *De Motu Animalium* 700B34.

[10] W. D. Ross, *Aristotle's Metaphysics* I (Oxford 1924) cxxxvii.

[11] Ross (above, note 10) cxxxvii.

generally accepted that the presence of this faculty in the fifth element implies that the heavenly bodies are ensouled; the conclusion must be that *mutatis mutandis* there is a sense in which the sublunary elements are ensouled also.

Now that we have compared the sublunary elements with the celestial, we can proceed a stage further. In our examination of the nature of sublunary informed matter, we recognized that the fact that form and matter are relative terms had to be accepted not merely as a cliché but with a full realization of the implications of such relativity. If we now extrapolate from the sublunary sphere and think of the celestial, we shall have to recognize that we cannot, except in abstraction, distinguish soul and body in the case of the first heaven. The material of the first heaven is characterized by a desire for the Prime Mover, and we can think of that desire as an aspect of its soul.

For the movement of the first heaven, therefore, we may rest content. It is moved by a Prime Mover, or God, which is the object of its desire. But according to Chapter Eight of *Metaphysics Λ*, which Merlan has demonstrated is by no means out of harmony with Aristotle's general view in the *Metaphysics*,[12] there is not merely one unmoved mover, but fifty-five. Now according to the general principles of Aristotle's system, as expounded, for example, at *Metaphysics* 1074a33–34, all things that are a plurality involve matter. Are we to assume that the remaining unmoved movers have a material element within themselves, and that they are actualized by a desire of the Prime Mover? Merlan has shown that according to Aristotle there is only one cosmos and fifty-five movers are needed to complete the movements in it; but when Merlan comes to the relation between these movers his scholastic outlook damages his interpretation of Aristotle. He writes as follows: "Every one of the immaterial movers forms a species by itself (like Plato's ideal numbers, or St. Thomas' angels) and the movers are not individuals of a common species or genus 'unmoved mover' since they constitute a series of terms which stand to one another in the relationship of 'prior and posterior'."[13] The comparison with Plato, of which Merlan

[12] P. Merlan, "Aristotle's Unmoved Movers," *Traditio* 4 (1946) 1–30. Through an excessive emphasis on examining whether Aristotle is "monotheistic" or "polytheistic" Merlan has neglected to speak clearly on whether there is a relation of dependence between the plurality of unmoved movers and a prime mover.

[13] Merlan (above, note 12) 24.

makes much in his article, is misleading. There is no evidence in the *Metaphysics* that the unmoved movers stand to one another in a relationship of "prior and posterior". And if one compares Plato's ideal numbers, one might also compare Plato's One and Indefinite Dyad, which at least in Aristotle's view are prior to the ideal numbers that are generated from them.

We must look again at 1074A32 of the *Metaphysics*. Aristotle has demonstrated in the early part of Section Eight that there must be a plurality of unmoved movers. He now goes on to demonstrate that there is only one cosmos and that the first principle of that cosmos must be one. This does not rule out a plurality of unmoved movers, nor is it contradictory to the idea of their existence; it simply suggests that within the single cosmos there is ultimately a prime cause and that therefore the other unmoved movers are dependent in some sense on that cause. And since they are so dependent, there is no need to suppose, with Merlan, that they are wholly immaterial. Indeed Ross had answered Merlan in advance when he pointed out that it is normal Aristotelian doctrine that genus is in some sense the matter of species: Aristotle uses the phrase "intelligible matter" in this connection.[14] And if these unmoved movers have something material about them, they have, in common with matter in general, something potential. As matter in the sublunary world is striving to return to its own place, so we must imagine that the unmoved movers, in so far as they are material, will behave in the same way as the soul of the first heaven in relation to the Prime Mover, that is, they will have a desire and love of it.

Throughout the whole Aristotelian corpus, therefore, there is the same relation of form and matter in all existing things which will enable us to say that all these things have something lifelike about them, in however attenuated a form. The Aristotelian *scala naturae* can be seen as a scale marking the ever-increasing predominance of life over lifelessness. At the bottom there are the four elements whose hold on life is minimal and from which the quasi-lifelike features would perhaps disappear if they could attain their natural places; at the top is the Prime Mover who is life itself. The Prime Mover is permanently in act and his act is the act of thinking. And the act of thinking is life itself in its purest form, as we learn from the *Metaphysics* (1072B27).

[14] Ross (above, note 10) cxl; *Met.* 1045A34, 1024B8, 1038A6.

It might be supposed from what we have said so far that Aristotle's whole system is permeated by a kind of animism, or at a more sophisticated level that he still hankered after the Platonic world-soul. Neither of these suppositions would be correct. Although Aristotle refused to draw an absolute line between the animate and the inanimate in so far as he held that even the inanimate had, as it were, traces of the qualities of the animate, he does for practical purposes distinguish a point where the strictly animate, as opposed to what we might call the pre-animate, begins. This point is defined, among other places, near the opening of Book Two of the *De Anima* (412A12): "Of natural bodies some have life and others do not. By life we mean the faculties for self-nourishment, growth and decay." We should notice that desire is not mentioned as a specific quality of life, doubtless because Aristotle wishes to concentrate in the *De Anima* on conscious or semi-conscious desire, and such desires are to be associated with sensation or reasoning. Nevertheless, when we reach the level of plants in the Aristotelian world we have to recognize that Aristotle would regard them as both living things and desiring things. Their desire, of course, would not be conscious, but a lower form of instinct. In fact, viewed from this angle plants can be clearly seen as midway between animals and so-called inanimate objects. Animals have instinctive desires associated with the powers of sensation which they possess; inanimate things have a vague aspiration towards their natural places in the cosmos or towards the achievement of their form. Plants stand in-between.

At *De Anima* 412A9 Aristotle writes as follows: "Matter is potentiality while form is realization (ἐντελέχεια)." We have discussed the association of matter and potentiality already, and we should now recall that this dichotomy between matter and form, potentiality and actuality, is in the case of all but the Prime Mover merely an abstraction. Reality is composed of composites of form and a matter already possessing some degree of actualization but still full of unactualized potentialities. In order to probe into this further we should consider the idea of potentiality in more detail. It is a much abused concept among philosophers, the blanket-term, they say, which covers a deal of sloppy thinking. For as Aristotle himself clearly recognized, the word *dynamis* can convey a number of meanings, among

them the power to act and the power to be acted upon (*Met.* 1046A).

But consider the following cases: a boy has the *dynamis* of becoming a man, an acorn has the *dynamis* of becoming an oak-tree, a block of marble has the *dynamis* of becoming a statue. In the first two cases, we might say, the situation is that the propositions "The boy has the *dynamis* of becoming a man" and "The acorn has the *dynamis* of becoming an oak-tree" mean respectively "The boy is a living thing which will grow into a man" and "The acorn is a living thing which will grow into an oak-tree." However we cannot, it seems, go on to say, "A block of marble is a living thing which will grow into a statue," for, regardless of whether we choose to call the block of marble a living thing, we can be quite sure that it will not grow into a statue. However, the proposition "The block of marble is potentially a statue" can easily be explained as follows: "It is possible for a man to make a block of marble into a statue." In other words, in the case of the marble the efficient cause which will make the marble into the statue is *outside* the marble itself, whereas in the case of living things it is *inside*.

But is it wholly outside? Consider the following propositions: "He turned the marble block into a statue," and "He turned the marble block into gold." This second proposition, we should say, is ridiculous, and Aristotle would agree—although a perverse misunderstanding of Aristotelianism can provide a spurious theoretical basis for the science of alchemy. Why then can marble be turned into statues but not into gold? Because, for Aristotle, the form "marble" admits of certain developments but not of others. Or, if we reduce this to physical theory, because the movements in the block of marble, which are always present when the composite of form and matter which is called "marble" is present, are tending in certain directions but not in others. Alchemy, in fact, is only ruled out of the Aristotelian world because the matter of marble has its own natural tendencies, natural aspirations, if you like, which are caused by the particular combination of the four elements in marble and of the natural tendencies of those elements.

We can return therefore to the proposition "The marble block has the potentiality of becoming a statue" and examine it again with particular reference to efficient causation. Certainly for the

marble to be turned into a statue an external efficient cause is essential; but the matter-form composite which is marble does more than provide a material substrate for the statue. Its own natural movements and natural aspirations form, if we may put it in this way, a lifelike (ψυχικόν) efficient cause also. The term *dynamis*, therefore, is not quite as ambiguous as might be supposed in the examples we discussed. All things that have *dynamis*, and indeed that is all things apart from the Prime Mover, have some kind of aspiration. In so-called inanimate objects, or as Aristotle seems to prefer to call them, objects without organs (*De Anima* 412B1), this aspiration requires the help of an efficient cause outside the object for further actualization to take place. Yet even here we should observe that the gap between the animate and the inanimate is less than it might appear. It is true that when we say that the boy has the *dynamis* of becoming a man we do not mean that some other man must appear to make him into a man in the way a craftsman makes marble into a statue. On the other hand, for all the child's innate and self-operating *dynamis* he would certainly not grow into a man if his mother, a sort of external efficient cause, did not give him food.

There is then an aspiration coursing through the whole cosmos and this aspiration helps us to understand the nature of matter and its relation to potentiality. It is a cliché that when we speak of "potency" and "act" we are referring in a "dynamic" way to matter and form, but we do not always stop to think of the implications of that "dynamic" way of speaking. Aspiration, inherent in all things, is the missing factor. And it is because of this aspiration that we can understand the equation of potentiality and matter.

Has Aristotle then tended to return to the old idea of Plato's in the *Phaedo* after all, the idea that all things strive for the good? Let us return again to the exact words of the passage from the *Eudemian Ethics* (1218A) for our answer: "The statement that all existing things desire some one good is not true, for each thing seeks its particular good, the eyes seek sight, the body health, and so on." According to Plato, as Aristotle saw his theory, everything in the cosmos is striving towards the form of the Good; yet in Aristotle's view the Good is, if not non-existent, at any rate too general both in sense and in application to be of any relevance to the philosophical enquirer. Rather each thing has its own

good and seeks for that. This good is the full completion of its own nature, its actuality; and these goods in themselves are not members of a single species to be subsumed in any meaningful way under anything Good in itself. Aristotle has therefore agreed with the suggestion of Plato that there is an aspiration in things, but has refused to agree that the ends of these aspirations are identical. The only parts of the Aristotelian cosmos which might be said in a certain sense to desire the Good itself are those which are nearest the Good itself,[15] namely the first heaven and the plurality of unmoved movers. Everything else has the possibility of fulfillment within its own limited sphere.

Aristotle has done the same with the aspirations of things as he has done with the Platonic dialectic. According to the Platonic idea, all things aspire to the Good and dialectic is the single science of that Good which subsumes and commands all the other sciences; according to Aristotle, all things aspire to their own good and each intellectual discipline has its own individual and often unrelated methods. And the change of language in Plato's latest writings, such as the *Philebus*, should not allow this kind of difference to be obscured. Plato may prefer to talk of the good for man in the *Philebus*, rather than of the Good in itself—and at a superficial level he may seem to have come nearer to Aristotle's position. But the language is deceptive. For Plato the good for man is the Good itself; for Aristotle the Good itself is at best irrelevant to the good for man.

Yet by picking up and adapting the idea that Plato put forward in the *Phaedo* about the aspiration of things, and by harmonizing it with his own doctrines of the relation of form and matter, Aristotle has at least found one possible solution to a Platonic problem. If the form is simply the achievement of the aspiration of the matter in any particular case, then the problem of participation does not arise. And if the particular matter aspires not to form in general but to its particular form, then a soul of the world becomes as unnecessary as a Form of the Good.

In the Aristotelian world even earth and water contain *pneuma*, and *pneuma* is in a sense the prime form of life. Its role in the Aristotelian system is not always recognized as fully as it must be—and this is partly because it is a refinement of a very primitive idea among the Greeks. Originally the Milesians had

[15] For such Platonic language used of the Prime Mover see above, note 9.

looked for a single *archê* of the world and the distinction between animate and inanimate had not been invented. When it was invented, in order that the unity of being could be preserved, it had to be bridged. And it had to be bridged by something which had qualities both of the inanimate and the animate. Hence Aristotle can write in the passage of the *De Generatione Animalium* we considered earlier: "Animals and plants are formed in the earth and in the wet because in earth water is present and in water *pneuma*, and in all *pneuma* soul-heat is present, so that in a way all things are full of soul" (762A19–22). According to Aristotle it had been a dictum of Thales that all things are full of gods (*De Anima* 411A8). The comparison and echo should not be neglected. That "unconscious purpose of nature" of which Ross spoke was no difficulty for Aristotle. We can see now that he was in the normal tradition of much of earlier Greek thought in not seeing it was a difficulty.