

WAS ARISTOTLE AN EVOLUTIONIST?

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It is sometimes said that Aristotle maintained a doctrine of evolution. The statement is made both by people who believe in evolution, and wish either to support it with Aristotle's authority or to do him a favour by ascribing to him a popular doctrine; and by people, like ourselves, who disbelieve in evolution. My purpose here is to show that Aristotle never maintained any such doctrine at all. If it be asked what is the use of raising the question now, I reply that there seems to be no reason why we should ascribe to a man, even to one dead over two thousand years, views which we consider to be false, and which he never held.

Let it be noted first that, as Standen has pointed out, there are really two theories—"groups of notions" might be a better way to put it—in connection with which the term "evolution" has been used. As he said: "... it is really two theories, the vague theory and the precise theory... (the vague theory) points to the striking similarities in every detail, between the bodies of men and of the apes... it would seem to prove that all forms of life are connected in some way... The precise theory of evolution is that all forms of life on the earth today came from some original form of life by a series of changes which, at every point, were natural and explainable by science... (it) is much further from being proved than men are from flying to the moon."

Actually, Standen's "vague theory" should not be called "evolution" at all, any more than the noticing of the fact that Jones looks quite a bit like Smith should be called "genealogy." Nor should it be called a "theory"; if anything, it is just an observation. Since "evolution" literally means "unrolling," as a written scroll would be unrolled, the "vague theory" is merely the observation that we find some logical connection between the various lines written on the scroll. But the "precise theory" is more like saying that the first line wrote the second, the second the third, and so on. Let us, to avoid confusion, call what Standen called "the vague theory" by such names as "homology," "similarity" or "analogy."

Now Aristotle was a keen observer of "analogy." In "On the Parts of Animals" ² he said "... many groups (of animals) ... present common attributes ... in other groups ... analogous ... some groups have lungs, others have no lung, but an organ analogous to a lung in its place; some have blood, others have no

blood, but a fluid analogous to blood ... " Many similar passages could be quoted. But he did not in the least go on to say that analogy implied a common ancestry; in fact, he seems not to have felt the need of any account of the "origin of the species."

He says³ "... it is impossible that such a class of things as animals (as individuals) should be of an eternal nature, therefore that which comes into being is eternal in the only way possible, Now it is impossible for it to be eternal as an individual (though of course the real essence of things is in the individual)—were it such it would be eternal—but it is possible for it as a species. That is why there is always a class of men and animals and plants." And in another place⁴ he said that coming to be (e.g. generation of animals) will never fail, for "... God ... fulfilled the perfection of the universe by making coming to be uninterrupted ... because that coming to be should itself come to be perpetually is the closest approximation to eternal being."

So Aristotle seems to have been inclined to believe that living creatures had existed from eternity in more or less their present form, and would continue to do so. Indeed he said⁵ "... in connection with the origin of men and quadrupeds, if they were really "earth-born" as some say, they came into being in one of two ways: either it was by the formation of a scolex at first or else it was out of eggs."

He goes on to say "... if there really was any such beginning of the generation of all animals, it is reasonable to suppose it to have been one of these two: scolex or egg. But it is less reasonable that it was from eggs ... " The translator adds here the note "This is, I believe, the only passage from which we can gather anything about Aristotle's views on evolution ... He contemplates the possibility that man's ancestor was a scolex; he never thought that he might have been a monkey. Each species would have a separate beginning by spontaneous generation; they would not be related by descent from a common ancestor." (By "Scolex" Aristotle apparently meant something like an egg or larva, generated in some cases by adults of another kind, in others spontaneously.) Incidentally, the word "evolution" may be found in translations of Aristotle, but it will be found to mean development of the individual, not origin of the species.

So Aristotle's view was certainly not a Darwinian one. Indeed, Empedocles had earlier proposed something more nearly like "variation and

natural selection," and Aristotle commented⁶ "why then should it not be . . . e.g. that our teeth should come up of necessity—the front teeth sharp, fitted for tearing, the molars broad and useful for grinding down the food—since they did not arise for this end, but it was merely a coincident result; and so with all other parts in which we suppose that there is purpose, whenever then all the parts came about just what they would have been if they had come to be for an end, such things survived, being organized spontaneously in a fitting way; whereas those which grew otherwise perished and continued to perish as Empedocles says his "man-faced ox progeny" did . . . yet it is impossible that this should be the true view. For teeth and all other natural things either invariably or normally come about in a given way, but of not one of the results of chance or spontaneity is this true." And in another place⁷ "There are some too who ascribe this heavenly sphere and all the worlds to spontaneity. They say that the vortex arose spontaneously, i.e. the motion that separated and arranged in its present order all that exists. This statement might well cause surprise . . . Besides the other absurdities of the statement, it is the more absurd that people should make it when they see nothing coming to be spontaneously in the heavens . . ."

It seems clear, then, that Aristotle recognized—nay insisted on—the fact that all animals, indeed all living creatures, have similarities one to another. But the idea that their relation would be that of having common ancestors never occurred to him; and he, with his strong sense of purpose in everything, would have considered it ridiculous to say that their coming to be was through chance.

It may be remarked also that Aristotle was no friend of the "doctrine of uniformitarianism," which was not particularly new in his time. He said ". . . Democritus reduces the causes that explain nature to the fact that things happened in the past in the same way as they happen now, but he does not think fit to seek for a first principle to explain this 'always': so, while his theory is right in so far as it applies to certain individual cases, he is wrong in making it of universal application. Thus, a triangle always has its angles equal to two right angles, but there is nevertheless an ulterior cause of the eternity of this truth, whereas first principles are eternal and have no ulterior cause."⁸ ("Ulterior" here of course

means just "further," and is not used in any bad sense.)

Let us notice one point in conclusion. Aristotle was a pagan, without any of the advantages of revelation which the humblest Christian enjoys. If, then, he could see close enough to the truth to keep himself clear of godless theories, how much more ought Christians to do so?

¹A. Standen, "Science is a Sacred Cow," E. P. Dutton & Co., Inc., New York, 1950 pp. 100-103.

²Aristotle "On the Parts of Animals" (Translated by W. Ogle) Book 1 Ch. 5 (Oxford vol. V, 645,^b Random p. 657).

³"On the Generation of Animals" (Translated by A. Platt) Book 2 Ch. 1 (Oxford vol. V, 731^b)

⁴"On Generation and Corruption" (Translated by H. H. Joachim) Book 2 Ch. 10 (Oxford vol. II, 336^b, Random p. 527).

⁵"On the Generation of Animals," Book 3, Ch. 11 (Oxford vol. V, 762^b & 763^a.)

⁶"Physics" (Translated by R. P. Hardie and R. K. Gaye) Book 2, Ch. 8 (Oxford vol. II, 198^b, Random p. 249.)

⁷"Physics" Book 2 Ch. 4 (Oxford vol. II, 196^a, Random pp. 243 & 244.)

⁸"Physics" Book 8 Ch. 1 (Oxford vol. II 252^a & 252^a, Random pp. 358 & 359.)

Note added: There are two books which might be of some interest in connection with what has been written here. The first is "Aristotle Looks into Evolution" by J. T. Bergen, published in 1940 by Northwestern Publications, Minneapolis. I have not yet been able to read this work, since it is out of print and the company apparently out of business. It seems to be concerned, not to investigate Aristotle's views on evolution, but to apply his method of reasoning against the doctrine.

The second is: "Aristotle, Galileo, and the Tower of Pisa," by L. Cooper, published by the Cornell University Press, Ithaca, in 1935. This has not much to do with our obligation, as Christians, to believe the Scriptures, but it may have to do with our obligation, as Christians, to be fair.

The quotations from Aristotle are from the translation published by the Oxford University Press in the earlier part of this century, and completed in 1931. The citations "Oxford . . . , etc." locate the references in the traditional way. Most of the references are found in the volume "The Basic Works of Aristotle" published by Random House, Inc., New York, in 1941. References are located in this volume by "Random" followed by the number of the page.