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THE POPE AND EVOLUTION

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POPE JOHN PAUL II, IN A SPEECH GIVEN ON OCTOBER 22, 1996 TO THE PONTIFICAL Academy of Sciences entitled “Truth Cannot Contradict Truth,” states that “new knowledge has led to the recognition of the theory of evolution as more than a hypothesis.”¹ He goes on to note that the progressive acceptance of the theory by researchers and the convergence of the latest discoveries in various sciences are “decisive arguments in favor of the theory.”² Predictably, these statements provoked ironic commentary in the secular press and even dismay among faithful Catholics.

Yet the Pope’s speech, far from being an endorsement of the theory of evolution, turned out to be the most explicit papal criticism of it to date. In this essay, I hope not only to make that clear, but also to explain the sources of that criticism. Thus, we will first examine in detail the Pope’s speech to the academy, and then we will explore the roots of his criticism of evolution in St. Thomas Aquinas’s philosophy of nature.

TRUTH CANNOT CONTRADICT TRUTH

A short summary of the Pope’s speech is necessary for our examination. The speech can be divided into three main parts. In the first, the Holy Father reasserts the right of the Church to pass judgment on evolutionary theory. In the second, he revises a former judgment, first reviewing a previous magisterial pronouncement on evolution (the encyclical *Humani Generis* of Pope Pius XII), and then outlining the Church’s new position in favor of evolution. Finally, he qualifies his endorsement of evolutionary theory. In the first part of his speech, the Pope argues that the Church is especially concerned with the theory of evolution because it attempts to account for human nature. “Revelation,” he notes, “for its part contains teaching concerning the nature and origins of man.”³ But since we know that “truth cannot contradict truth,” and since revelation, having a divine origin, is more certain than science, it is clearly “within the framework of [the Church’s] own competence,” as he puts it, to pass judgment on evolutionary theory.⁴

Before going on to explain that judgment, the Holy Father briefly reviews the Galileo case. That case, by way of contrast, casts light on the way in which the Church should make scientific judgments. In the seventeenth century the Church felt called upon to address Galileo’s scientific theory that the earth moved around the sun rightly so, because it touched on matters of Scriptural interpretation. She also correctly allowed further investigation into Galileo’s hypothesis, and initially prohibited it being taught as if it were an established theory. But in failing to keep abreast of the latest scientific developments, She failed to remove the prohibition in a timely fashion. Thus, the Church’s handling of that case damaged the credibility of Her judgment in other scientific matters. In order to avoid a similar mistake in the case of evolution, the Holy Father states that “the exegete and the theologian must keep informed

about the results achieved by the natural sciences.”⁵ Using those results, and the proper methods of Scriptural interpretation, the Church can make a prudent judgment upon relevant scientific theories.

The Holy Father next explains what the judgment of the Church is, first reviewing Her most important previous statement. In the 1950 encyclical, *Humani Generis*, Pius XII stated that there was no essential opposition between the theory of evolution and the faith as long as Catholic scientists and teachers remained within certain limits. First, they must recognize that, while evolution may account for the development of the human body, the human soul is directly created by God. Also, they must not teach that the human race had more than two original parents, since this would conflict with the Church’s teaching on original sin. Finally, they must not teach evolution as a proven scientific theory, but as a hypothesis which is worthy of investigation.⁶

After outlining the teaching of Pius XII on evolution, the Holy Father revises the judgment of the Church in the light of “the results achieved by the natural sciences.” What are those results? A “series of discoveries in various fields of knowledge” and “the convergence ... of the results of work that was conducted independently” have led to the progressive acceptance of this theory by almost every researcher in the field.⁷ And so, just as in the case of Galileo, but in a more timely fashion, the Church recognizes that it is time to remove the prohibition on teaching evolution as an established scientific theory. The Church recognizes that evolution is “more than a hypothesis.”⁸

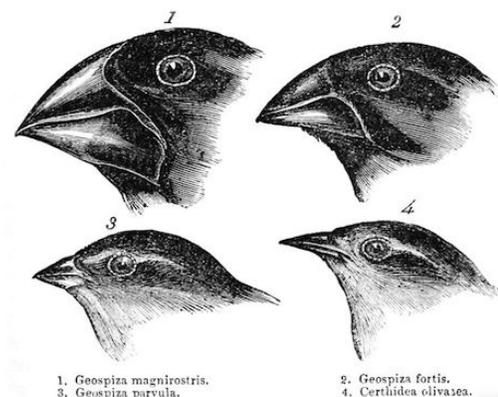
But the Holy Father’s acceptance of evolution is still qualified. Although he does not mention the subject of how many original parents there were for the human race, that limitation undoubtedly remains in effect. He does, however, remind us that the evolutionary process by itself cannot account for the spiritual dimension of man. This is because man in his spiritual dimension represents an “ontological leap,” a being of an essentially different kind from every other physical being.⁹ Consequently, while he accepts evolution in a general way, he rejects certain versions of evolutionary theory as “incompatible with the truth about man.”¹⁰ Our next task, then, is to examine the erroneous versions of evolutionary theory.

THREE VERSIONS OF EVOLUTION

In qualifying his acceptance of evolution, the Pope states, “And, to tell the truth, rather than the theory of evolution, we should speak of several theories of evolution.”¹¹ He points out that this variety of theories has two sources. The first is the variety of accounts of the mechanism of evolution. The Church does not make judgments here, since it falls strictly to the scientist to do so. But the second source of variety is the philosophies which interpret evolution. Just as there are reductionist, materialist, and spiritualist philosophies, there are reductionist, materialist, and spiritualist theories of evolution. And since these philosophies touch on the truth about man, here the Church has the competence to judge between versions of the theory of evolution.

Since the philosophies distinguish the theories, we need to briefly examine the philosophies. Let us begin by recalling what a reductionist philosophy is. A reductionist philosophy is one which leads back or reduces the higher, more perfect things to the lower ones. That is, it assumes that the higher and more noble realities are not essentially different from the lower, but that they simply differ by degree. For example, Freudian psychology is reductionist because it assumes that man’s highest emotions and desires are all simply animal appetites. Human desires seem different only because they are more complicated. Thus, according to Freud, human and animal desires differ only in degree, not in kind.

Materialist philosophy is a subset of reductionist philosophy which reduces everything to the very lowest thing, its matter. The materialist believes that everything which exists is simply an arrangement of material particles, and that all change is simply the motion of those particles. Thus, the materialist believes that man is nothing but a complicated collection of atoms, and that human thought and desire is nothing but the motion of those atoms.



The Galapagos finches observed by Darwin.

Finally, the spiritualist philosophy is the opposite of the materialist, not because it reduces all things to spirit, but because it asserts that spiritual reality, which is the highest, is real and cannot be reduced to anything lower. For example, Aristotle did not deny that man had an animal body, but he refused to teach that the characteristic human activities, especially thought, could be reduced to merely material changes, or even to the activities of the lower animals. According to Aristotelian philosophy, the spiritual part of man was irreducible and primary.

There are then three kinds of evolutionary theory, corresponding to these three philosophies. A reductionist theory of evolution tries to use evolution to defend the position that higher and lower living things are not different in kind, but only in degree, and that the characteristics of the higher living things are essentially the same as the characteristics of the lower ones. The materialist version of evolution goes even farther, and attempts to explain comprehensively all living things solely by their matter and its motion. But a spiritualist version of evolution, while allowing for the development of the higher from the lower, affirms that the lower cannot be the complete cause of the higher. Thus, according to a spiritualized version of evolution, even if man has evolved from the lower animals, the activities he has in common with the lower animals cannot by themselves explain his characteristically human activities, such as thought. A spiritual cause must have intervened at least in the evolution of man. Spiritualist evolutionary theory is opposed both to materialist and reductionist theories.

The Holy Father, after he has distinguished evolutionary theories according to their philosophies, judges which versions the Church must reject. He states, "Theories of evolution which, in accordance with the philosophies inspiring them, consider the spirit as emerging from the forces of living matter or as a mere epiphenomenon of this matter, are incompatible with the truth about man. Nor are they able to ground the dignity of the human person."¹² That is, philosophies which reduce man to matter, or to the lower living things, can never be accepted by the Church. In reducing man to something lower, they are unable to account for his inherent dignity. Thus, reductionist and materialist theories of evolution must be rejected, and only a spiritualist version can be accepted.

Therefore, the Holy Father has in fact accepted only one version of evolutionary theory, but has reject-

ed those versions which are today dominant, namely, Darwin's reductionist theory of evolution, and the materialist version of his followers. In order to see more clearly that the Pope has rejected the dominant versions of evolution, we will look at texts from Darwin and one of his followers.

That Darwin is a reductionist is evident in *The Descent of Man*. There, Darwin argues that man is entirely the product of an evolutionary process, and that all of his traits and abilities are reducible to the traits and abilities of the lower animals. Thus, he writes, "[t]he difference in mind between man and the higher animals, great as it is, certainly is one of degree and not of kind."¹³ And since man's mental powers are what make man different from the animals, Darwin in effect has denied that there is any essential difference between man and the other animals. Darwin's reductionist vision of evolution has allowed him to reduce man to a complicated animal.



Darwin's followers do not stop there. Ernst Mayr, one of the most prominent Neo-Darwinians, argues in his book, *The Growth of Biological Thought*, for a materialist conception of all living things. He asserts that there is no real difference between the living and the non-living. As he puts it, "All physiological processes are, indeed, ultimately chemical or physical processes."¹⁴ In other words, the powers and activities of all living things are really just complex combinations and reactions between moving particles. According to the materialist, the function of evolutionary theory is to explain how the laws of chemistry and physics produce living things. And since man is a living thing, modern evolutionary theorists reduce man to a collection of material particles.

Now we can see why both the irony of the secular press and the apprehension of the faithful were completely groundless. The dominant theory of evolution in the modern world is either materialist or reductionist, and these are the theories which the faithful have rightly rejected. And the Holy Father rejects them also. He accepts evolution only to the extent that it *traces a development* of the higher living things from the lower, not to the extent that it *reduces* the higher to the lower, or all things to matter in motion. Thus, he teaches that only a version

of evolution which allows for spiritual causes is compatible with the Faith.

It is clear, of course, that the materialist and reductionist theories of evolution are incompatible with the faith, but the Holy Father also states that they are incompatible with real philosophy. He states that all theories of evolution borrow from philosophy, and that philosophy has a role in judging them. In order to complete our consideration of the Holy Father's speech, we need to consider the relationship between science and philosophical reflection.

EVOLUTION AND PHILOSOPHICAL REFLECTION

A wise man once said that the laws of strategy are subject to the laws of common sense. The same holds true for the laws of natural science: they too are subject to the laws of common sense. For example, should a scientific theory conclude that the physical world is an illusion, it would violate common sense, and we would immediately reject it. But since common sense comes before science, so does philosophy, because philosophy is merely reasoned-out common sense. This statement may seem paradoxical, since to the common man philosophy seems to be the opposite of common sense. But he is thinking of the vain philosophies which St. Paul condemns. Good philosophy is not absurd; it begins with ordinary experience, and rigorously reasons to its consequences. Since good philosophy is merely the carefully reasoned conclusions of common sense, the Holy Father is quite right in using it to judge a controversial scientific theory like evolution.

This is not to say that philosophical reflection is easy; the erroneous opinions of many philosophers demonstrate its difficulty. The Holy Father points out, however, that St. Thomas Aquinas, the Angelic Doctor, can reliably guide our philosophical reflection. Using his insights into the nature of the physical world, which the Holy Father refers to as "natural philosophy," we can show exactly to what extent evolutionary theory makes sense, and to what extent it is nonsense. In the last part of this essay we will use two common-sense principles from St. Thomas' natural philosophy to evaluate reductionist evolution: first, the principle that living things differ in kind from each other; and second, that something cannot give what it does not have.

St. Thomas believes both that living and non-living things are really different from each other and also that there are fundamental differences in kind between the living things. He writes:

For in this lower world there are found four kinds of living things. It is the nature of some to be capable of nothing more than taking nourishment, and, as a consequence, of growing and generating. Others are able, in addition, to sense, as we see in the case of shellfish and other animals without movement. Others have the further power of moving from place to place, as perfect animals, such as quadrupeds, and birds, and so on. Others, such as man, have the still higher faculty of understanding.¹⁵

In other words, living things are essentially different from each other—different in kind, not just in degree. The rock, a nonliving thing, is essentially different from all living things. The tree is essentially different from the clam, and the clam is essentially different from the dog. Most importantly, the dog is essentially different from man, the highest living thing.

But a careful reading of St. Thomas' text reveals not only that living things are essentially different, but that there is an order among them according to these differences. In his commentary on Aristotle's *Metaphysics*, St. Thomas makes use of an analogy between the essences of things and the numerals. He explains that the essences and definitions of things differ from each other by addition and subtraction, just like numbers.¹⁶ For example, the number three is like the number two, because both contain at least two units. The difference is that two has only two units, but three has one more. So three has everything that two has, plus something more. This principle, he teaches, holds good among all things different in kind.

In the case of living things, the higher ones have every essential feature that the lower ones have, and always something more. For example, we say that a tree is living because it grows and reproduces. The clam also grows and reproduces, but it senses things by touch as well, which the tree does not. The clam has every essential ability the tree grows, reproduces, and has a sense of touch, but it also has the other four senses. The dog has everything the clam has, plus something more. Finally, man has, but also something more. The dog man grows, reproduces, and has all five senses, but has reason on top

of these. Thus, man has everything that the dog has, plus something more. Therefore, in all living things the essence of the higher includes everything in the essence of the lower, plus something more.

Of course, one might object that the lower living things often have properties that the higher ones do not. For example, the cow has multiple stomachs, but man has only one, or tropical fish have brilliant colors but mammals do not. St. Thomas, however, is not speaking of incidental differences, of which there are an immense variety even within the same species. He is referring to essential differences, differences which relate to what makes something the kind of living thing that it is. And since growing, reproducing, sensing, and understanding are distinct and yet are all essentially life activities, these are the activities which separate the higher living things from the lower. These are the activities in which the higher has everything the lower has, plus something more.

St. Thomas also reminds us of an even more fundamental truth, “Nothing can confer upon another what it does not have.”¹⁷ An analogy with giving and receiving money will clarify his meaning. If one vagrant asked another for a loan of a million dollars, we would consider that request absurd. He should ask a tycoon, not a vagrant, because the tycoon has a million dollars, and so he can give it. The first request is absurd because a vagrant does not have a million dollars and no one can give what he does not have. The same is true for every real being. For example, an ice cube cannot heat water because it possesses less heat than the water does. In general, no being can give something to another or make that other have a certain quality unless it itself has that thing or that quality in some form.

The aforesaid principle, combined with the essential differences between living things, enables us to demonstrate the absurdity of any reductionist or materialist theory of evolution. By definition, the lower living things do not have the essential perfections which the higher living things do. The worm does not have the sense of sight, but the dog does. A worm, then, cannot by itself make a dog because that would be giving the dog the sense of sight, something which the worm does not

have. Reductionist and materialist evolutionary theories, however, demand that the worm make the dog. Using St. Thomas’ principles we can see that the versions of evolution typically taught in our schools ultimately violate common sense.

The evolutionist, of course, will object that the worm is not the direct parent of the dog. Rather, the worm is the parent of a slightly better worm, which is the parent of a fish, which is the parent of ... etc. The objection, however, merely postpones the difficulty. If something like a worm is the ancestor of the dog, then at some point an animal which did not have the sense of sight gave birth to one that did. And then the lower animal, whatever it was, must have given what it did not have, which is absurd.

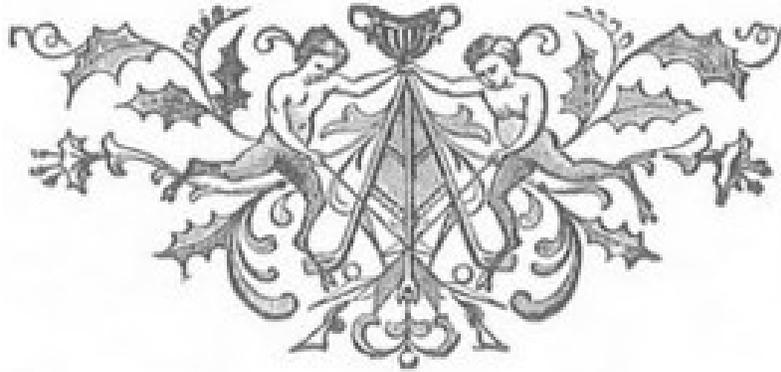
A persistent evolutionist will respond that reductionist evolutionary theory does not assert that the lower animal is the only cause of the higher one. The change from lower to higher also comes about because of the mutation of the genetic code, caused by environmental factors. But once again he has only postponed, not solved, the difficulty. If environmental factors caused the genetic change which brings about

the sense of sight in the dog, then the environmental factors must either themselves possess the sense of sight, or they must have given what they do not have. It is clear, however, that neither chemicals, nor radiation, nor any other environmental factor has anything like the ability to see. Consequently, the evolutionist is still asserting that something can give a quality which it does not have.

In sum, the application of two common-sense principles from St. Thomas’ philosophy of nature proves that reductionist and materialist versions of evolutionary theory are absurd. Of course, to reject reductionist and materialist versions of the theory is not the same as to reject all of evolutionary theory. As we saw before, the Holy Father speaks of a spiritualist theory of evolution. Such a theory differs from those given above, not about the facts of the fossil record, nor about the development of higher living things from the lower, but about the meaning of those facts, and the manner of that development. It posits that a supernatural intelligence has directed and sustained a natural evolutionary process. It acknowledges differences in kind between living things,


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especially the difference between man the other animals. This version of evolutionary theory is compatible with both good philosophy and the Catholic faith, and it is this version of evolutionary theory that has been accepted by the Holy Father.



NOTES

1John Paul II, “Truth Cannot Contradict Truth,” Address to the Pontifical Academy of Sciences, vol. 26, n. 22 of *Origins* (Washington: CNS Documentary Service), Nov. 14, 1996, 35 1.

2Ibid.

3Ibid.

4Ibid.

5Ibid.

6Pius XII, *Humani Generis*, N.C.W.C. translation (Boston: Daughters of St. Paul), 14.

7John Paul II, “Truth,” 24.

8 Ibid.

9Ibid.

10Ibid.

11Ibid.

12Ibid.

13Charles Darwin, “Comparison of the Mental Powers of Man and the Lower Animals,” *The Descent of Man*, vol. 49 of *The Great Books of the Western World* (Chicago: Encyclopedia Britannica, 1952), 391.

14Ernst Mayr, *The Growth of Biological Thought* (Cambridge: The Belknap Press of Harvard University Press, 1982), 115.

15St. Thomas Aquinas, *Summa Theologica* I, q. 18, art. 2, co.

16St. Thomas Aquinas, *Commentary on Aristotle’s Metaphysics*, Book VIII, lect. 3, n. 1724.

17St. Thomas Aquinas, *De Malo*, q. 4, art. 6, ad 11.