

**CREATION and
EVOLUTION**

By

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A Catholic Opinion on the
Evolution Theory

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CREATION AND EVOLUTION

A Catholic Opinion on the Evolution Theory

The Bible on Creation

1. The biblical account of creation was set down in writing in its present form in the time of Moses. During the long ages before writing was invented it had undoubtedly been handed on from generation to generation by word of mouth. The final form in which it is preserved for us in the book of Genesis was determined in part by the peculiar mode of thought and the rich genius of the ancient Hebrews, and in part it represents the final product of an age-long tradition. The truths it portrays are eternal. They may be summarized as follows:

2. "In the beginning God created heaven and earth, and the earth was void and empty, and darkness was upon the face of the deep; and the spirit of God moved over the waters." God first made light, then He separated the land from the waters, commanded the earth to produce the green herb, set the stars, sun and moon in the heavens, bade the waters bring forth the creeping things and birds of the air, and finally at His command, there appeared the cattle and the beasts of the field. All this was the work of the one great God.

3. And lastly He said: "Let us make man to our image and likeness; and let him have dominion over the fishes of the sea, and the fowls of the air, and the beasts, and the whole earth . . . and God created man to His Own image; to the image of God He created him; male and female He created them . . . and the Lord God made man of the slime of the earth; and

breathed into his face the breath of life, and man became a living soul. . . . And God saw all the things that He had made, and they were very good."

4. This is the substance. The language, in large part figurative, in which these eternal truths are clothed, can be understood only if we know something about the circumstances that prevailed at the time Genesis was written. The stage setting for the biblical drama is well described by Father Zahm in the following language: "The Hebrew people had lived among idolators and were surrounded by people who gave divine worship to many of God's creatures. Moses wished to impress upon their minds that neither the sun, nor the moon, nor the stars, neither any animal, nor the earth which affords its nourishment, nor any of the elements, are God, as was supposed by the Sabianism of the Orient, especially of Chaldea; by the worship of animals in Egypt; by the divine honors paid to the earth by the Romans, Pelasgians, and Germans; and by the cult of fire-worshippers of Greece and Persia. All these things, the objects of the adoration of the heathen, are the works of God. There is no power opposed to God which is equal to Him. Neither is matter, as such, according to the later opinion of the Platonists, the seat of evil. Everything is the work of God, and everything therefore is good.

"From the foregoing it is manifest that the prime object of the Mosaic narrative, like that of all revelation, was a religious one. 'The Gospels,' says St. Augustine, 'do not tell us that our Lord said, I will send you the Holy Ghost to teach you the course of the sun and the moon; we should endeavor to become Christians and not astronomers.' So it is with the Mosaic account of creation. Its purport is not to teach geology, physics, zoology, or astronomy, but to affirm in

the most simple and direct manner the creative act of God and His sovereignty over all creatures. Its object is not to anticipate any of the truths of science or philosophy, but to guard the chosen people of God against the pernicious errors and idolatrous practices which were then everywhere prevalent" (Zahm: *Bible, Science, and Faith*, p. 33).

The Bible Story and Evolution

5. "Again, God not only created the world out of nothing, but He gave it its present form during a succession of epochs. According to Genesis, as well as according to science, He first created primitive, nebulous matter, and after a long, indefinite period of time He fashioned from this matter 'without form' all the myriad forms of the organic and inorganic worlds. And according to Genesis as well as according to science, the Creator proceeded from the simpler to the more complex. He first created light, without which organic development, as we know it, is impossible. He then separated the earth from the waters of the ocean and prepared it for the abode of terrestrial life. Plant life precedes animal life in the scheme of creation, and the waters of the deep are peopled before the dry land is inhabited. In both the vegetable and animal kingdoms the lower forms of life precede the higher. The culmination of the work of creation was man, whose apparition, according to both revelation and science, was posterior to that of all other creatures" (*ibid.* p. 35).

6. These observations by Father Zahm, written fifty years ago, sum up pretty thoroughly the relation between the Mosaic account of creation and the theory of evolution. The purpose of the former is religious, of the latter scientific, and the two are readily harmonized.

7. What is the theory of evolution? Let us lead up to a definition by considering some of the facts.

Geological Facts

8. In the neighborhood of Davenport there are a number of quarries and exposed bluffs. The rock is limestone and it abounds in fossils. Anyone can make a collection in an hour or two that will be fairly representative. There are coral and crinoids, brachiopods and mollusks, worms and trilobites, and occasionally the tooth or spine of a fish.

The Age of Fishes

9. Show these fossils to any geologist anywhere in the world and he will instantly remark "Devonian." He will tell you that this is very old rock. It was deposited ages ago, long before the time when, in other regions, coal was formed. The animals of which these fossils are evidence were quite different from any living today. Fish were the highest forms of life in those ancient days, and they were unlike modern fish. There were no land animals.

The Age Before Fishes

10. But Devonian rocks are not the oldest. In the quarries near Dubuque and northward, there are similar fossiliferous exposures. But they are different, and if you present a few specimens to your geologist he will not hesitate in pronouncing them Ordovician or Cambrian. He will tell you there is no need of looking for fish remains in that region. Fish are not found that early in geologic history; this was the age of invertebrates.

The Age of Reptiles

11. He will tell you, moreover, that if you go to the coal-bearing areas of southern Iowa and Illinois you

may be lucky enough to find the bones of land vertebrates, amphibians and reptiles, mingled with the carbonized tree trunks of giant ferns and calamites. These deposits were laid down long after the age of fishes, but, in spite of that, they, too, are very ancient. No mammals or birds existed in that period; these higher types appeared only after the lapse of further immeasurable ages.

Arrival of the Mammals

12. Evidence of the existence of the warm-blooded, milk-producing animals, the highest and latest forms of animal life, may be found anywhere in the Middle West in the surface gravel, in the form perhaps of a mastodon tusk, or the bones of a camel or a giant beaver. These mammalian types represent the last comers on the scene before the arrival of man.

The Evolution Theory Is Based on Scientific Facts

13. This cursory survey of some geological facts, all made known in the last century and a half, helps to give us the proper mental attitude for some reflections on the theory of evolution. There is no longer room for doubt that the living things of the Cambrian and Devonian and Carboniferous eras were the predecessors of modern organisms; the theory of evolution suggests that they were also their ancestors. The evidence for this belief is taken from other fields of science, from Comparative Anatomy, Embryology, Zoogeography. The geologist knows that the earth is very old, that life has varied through ages, that old forms have become extinct and new ones taken their place, and he believes that the theory of descent is reasonable. Embryologists add further testimony; and the geneticists are slowly gathering evidence. That is the theory

of evolution. It does not explain all the facts, it seems to run counter to some of them, but it is an eminently reasonable theory concerning past conditions on our earth, and serves as an admirable working hypothesis for the biologist.

Early Opposition to the Theory

14. This theory was first definitely proposed by Lamarck in 1809, but the world of scientists at that time, with few exceptions, refused to take the new suggestions seriously. The evidence then was too meager. Most people looked upon such ideas as dangerous because they were attempts to give a natural explanation of what had always been considered the province of the supernatural. Orthodox Protestants especially, for whom the Bible was the only rule of faith and guide to salvation, were severe in their condemnation of what to them seemed an impious assault upon the Mosaic account of creation. Catholics, on the whole, were similarly fearful. Had they been thoroughly familiar with their own scholastic philosophy, with the writings of Augustine of the fourth century and of Aquinas of the thirteenth, perhaps they might have had less difficulty in harmonizing the new ideas with ancient tradition. But Churchmen are not scientists; they have a higher and more important mission than the teaching of science; whether or not evolution is true has nothing to do with the salvation of souls; and when we consider that for fifty years after Lamarck the theory of evolution was in bad repute among the great majority of scientists themselves, it is not to be wondered that theologians, who are habitually conservative, should take a stand with the older science rather than the new.

15. In 1859 Charles Darwin published his "Origin of Species," and the scientific world immediately

took notice. The fifty years between Lamarck and Darwin had not been a period of scientific inactivity. Geology had become a genuine science, the microscope had revealed new wonders, plants and animals were described and catalogued, life-histories were studied in detail. Thousands of workers co-operated throughout the civilized world. Darwin, indeed, had a pet theory of his own to propose but he stated facts in its defense. Scientists began to be converted.

First Enthusiasts See Contradiction Between New Theory and Christianity

16. Now when men turn with enthusiasm to any new idea there is danger that they may become obsessed with it. So it was with the early evolutionists. Ernst Haeckel, and others of his type, were so carried away by the evolution idea that they thought to have done away with the necessity of God, of free will, and of immortality. Those who were inclined to use them found they were in possession of new weapons against the old church; "weapons that could be used with equal force to discredit the theologian and to arouse the imagination of the ignorant. This new theory compelled the abandonment of age-long convictions, hitherto considered inseparably bound up with our most cherished religious truths. If there is any truth in evolution, then God did not make the world as we see it today; it simply grew. Likewise, the world is more than six thousand years old. Man was not formed from the slime of the earth by the hand of God; he developed from it according to natural law. Language was not given to man and miraculously confused at the tower of Babel; it developed in natural fashion from simple beginnings to the varied forms existing today. Religion was not given to us from above; it was a

natural by-product of man's developing mental life."

17. Such was the argument. No wonder the new doctrines met with determined resistance. But the issues were muddled. Men did not distinguish between the natural and supernatural, between the world of religion and the world of science, between the essentials and the non-essentials of Christian traditions.

Dangers of Evolutionary Philosophies

18. Undoubtedly many of the new scientists held a dangerous philosophy. To do away with God, personal responsibility, and the hope and fear of a hereafter, is a terrible thing for the individual and for society. Men give up their religion on very little provocation. Modern science and the theory of evolution are frequently given as excuses. In the hands of an agnostic or atheistic teacher the theory is always dangerous. It draws attention away from God and sets up in His place a new god of natural law. This deity is less exacting, his code of morals is easier, and above all he is a modern and fashionable deity. Just how it is that men give ear to the foolish insinuation that evolution explains itself, that there is no purpose back of it all, that it is all the result of an unknown and unknowable blind force, is hard to understand; the fact is that many do so.

19. The greatest harm done, however, is not to the scientists themselves, even when these accept a thoroughly materialistic philosophy; because most of these men are intellectuals who are so completely absorbed in their work that they have no time or inclination to yield to the temptations that such an outlook on life may encourage. It is the less educated followers of the leaders who reap the logical fruit of a wrong fundamental philosophy. This was abundantly demonstrated

in Nazi Germany where an unscrupulous group of fanatics, who had been indoctrinated with a godless philosophy for two generations or more, were finally able to set at naught the discipline of centuries of Christian moral teaching.

Gradual Acceptance of the Scientific Theory

20. But, while any system of godless philosophic evolution is to be condemned, the genuinely scientific theory of organic evolution should not be made to suffer for that reason. As long as the theory of evolution is confined to its proper sphere within the domain of material science, it is harmless; more than that, it holds the germ of important truths that sooner or later compel the assent of all thinking men. And so today nearly all scientific men have accepted the theory as valid, at least in its general outlines. There is still opposition, but it is due almost entirely to misunderstanding. The theory that all things come to be what they are through an age-long process of evolution rests exclusively upon scientific evidence with which religion is not concerned. As long as scientists restrict themselves to a discussion of material phenomena, the Church is silent; Christ's kingdom is not of this world. But here lies the difficulty, to make the proper distinctions; and it will be worth our while to discuss the matter fully.

Science and Religion Differ in Point of View

21. A conflict between true science and genuine religion is impossible. Both aim at the truth and disagreement can appear only when one or the other draws a false conclusion. It is well to emphasize that science deals with proximate and immediate causes of natural events, religion goes to the ultimate source of natural law.

22. The farmer plants a grain of corn. It is the scientist's task to learn what happens as that grain swells, sprouts, grows to maturity, and ripens into new ears of corn. He wants to know what forces send the leaf up and roots down, what sort of pump is used to suck the moisture from the soil, what kind of factory it is that makes the starch and oil in the seed, what is the exact function of the tassel and the silk. The theologian, on the other hand, though he knows that there are laws according to which plants grow, need understand none of these details. He argues from laws to the Lawgiver; he knows that a plant of corn is a wonderful mechanism, and concludes that there must be a mind that planned it, and that is the mind of God; he states the fact that God makes corn grow. The scientist, in his field, tells about the details of that growth, he is concerned with the mechanism only, its structure and its function. He may know nothing about God and still be an excellent scientist. An atheist who denies God as the ultimate source of natural law, may, nevertheless, understand the proximate and immediate causes of scientific phenomena.

Development Is a Method of Creation

23. Upon careful examination one finds that the principles mentioned in regard to the farmer's corn apply equally well to the theory of evolution. The theologian insists that God created all the different forms of animal and plant life; the scientist claims to know that they developed according to natural law. Both views may be true; one states the important truth that back of all development there are laws and a Lawgiver; the other attempts to investigate the details of the laws.

24. Let us amplify for the sake of clearness this comparison between individual development and the theory of evolution.

25. Among God's most beautiful creatures are the birds of the air. Without a doubt God made them. Yet birds develop from eggs. An egg does not contain a young bird; it possesses in some way the power of developing into one. Until comparatively recent times nothing was known about the nature of the life-speck in the undeveloped egg or about the sequence of events in its development. Then the modern biologist turned his highly technical methods on the problem, and today ponderous volumes are available giving all the details that the microscope and critical experiment can reveal. That is science. The very young chick in the egg is merely a germ, in every way similar to the microscopic protozoan that causes malaria or to the yeast germ that lives on sugar and causes fermentation. But it stays a germ only a few hours. During the first day or two of incubation the young bird is actually fish-like in form, swimming, so to speak, in the liquids of the egg. Then it is transformed into a reptile-like creature. Those of us who have seen a freshly hatched robin, ugly and naked, can form some picture of what development means. Again, let us repeat, it is such details that science investigates. From the theologian's point of view they are the details of the process of creation, the formation of something higher and better out of low and simple materials.

The Creator Is God

26. Whence did the minute germ get its vital energy? Who laid down the plans and specifications for bird-growth? The scientists cannot hope to answer that question; the great Architect of the universe can-

not be revealed by the microscope or balance any more than He can be seen with naked bodily eyes. The investigator studies the material elements of nature only, things that have dimensions to be measured, mass to be weighed, and color to be seen; if one wishes to go beyond that—and who does not? he must enter another field of thought, that of philosophy and theology.

Christian Idea of God

27. From these “higher sciences,” by applying the principles of logic to the data of observation, we learn that there is a God Who made all things. He is the great Builder, Whose methods of production are usually those of slow development, methods that are peculiarly His own. He is a personal God, His essence is mind rather than matter. He is not a blind force, a cosmic urge, eternal energy, or anything that can be described by such names. He made the world with wisdom and foresight, He knows all things, past, present, and future. He is present everywhere, but not with a material, ponderable presence, since He is a pure spirit. He is a just and loving God. Catholics who are familiar with the catchism have a correct, though of course, incomplete concept of Him. And this God, all-powerful, all-knowing, all-loving, cannot be left out of question when one discusses the process of evolution in its entirety; He initiated it, directs and guides it, He knows whither it is leading.

A Study of Nature Should Lead to God

28. The scientist, as such, does not investigate God himself; he tries to understand the things that God has made, and to follow the processes that govern development. Rightly conducted such studies must lead to God. The mountains and the ocean, the sun and the rain, plants and animals, are God's creatures; and he

who considers them in a reverent mood cannot rest his thoughts until they dwell on Him Who made them. Yet, too often, intensive study of details renders the mind unfit to think in terms of anything but matter and force, atoms and electrons; men become impatient with things they cannot investigate in the usual manner and they call themselves atheists or at best agnostics. Knowing as they do so many facts that the theologian is not familiar with, they come to overemphasize the importance of their information and to look with contempt upon religion; this gives rise to what appears to be a conflict between science and religion, whereas in reality the two should be mutually helpful.

Organic Evolution Is a Scientific, not a Religious Theory

29. The theory of evolution is fundamentally a scientific theory and should not be permitted to invade the domain of religious truth. But it is something entirely new, vague and startling in its assertions, far-reaching in its consequences. It has to do with the origin of new species and in general with the geologic history of life on our planet. Men had never heard of such a science before; they had always thought that the creation of new forms of plants and animals must be a supernatural event; and somehow they got the idea that the Bible allows only six thousand years for the history of the world. When now the scientists began to insist that our little world is very old, and that plant and animal forms have undergone great changes in a perfectly natural manner, it seemed as if the scientists were invading the domain of the theologians. The simple fact of the matter is that science moved so fast that men found difficulty in adjusting themselves to the new ideas.

Evolution as God's Method of Creation

30. Let us suppose then, that the first plants and animals were lowly in form, as scientists claim and as Scripture suggests. Before there were any birds in the air or beasts in the field, there existed fishes, and crawling things in the water. Science has proven that the age of the world is measured in eons, not in years, and that a great variety of living things have inhabited our globe during this time. We have reason to suspect that the later and higher forms are the descendants of the earlier and simpler ones. There has been an evolution, and it may be described as an age-long development of plants and animals according to laws established by the Creator, and from seed-like beginnings that received their life from the same Creator. The discovery of the many facts and their interpretation which lead to such a conclusion is one of the glories of modern science.

A Knowledge of Evolution Should Lead to God

31. Since it is not the province of the Bible to teach science we find in it no mention of evolution; nor did theologians a hundred years ago dream of any such thing. It is truly something new. But far from upsetting our notions of God and creation, it helps us to understand these religious truths better. A contemplation of the immense lapse of time since the birthday of our earth gives us material for meditation on the eternity of God. A spark of life that began in an invisible speck of protoplasm ages ago and has managed to live on until today, developing higher and higher as time went by, cannot but fill us with admiration for the power and foresight of the Creator of the first living thing. It was He Who put into it all the forces that have developed into our world of today.

There are those who insist that the theory has not been proven. Granted; but should it ever be fully demonstrated it will furnish material for spiritual meditation.

"Darwinism"

32. This general theory of evolution should not be called Darwinism. It was clearly outlined fifty years and more before Darwin's day by the Frenchmen Buffon and Lamarck. Darwin's pet theory was an attempt to account for all the wonders of evolutionary progress by means of a single principle which he called Natural Selection. This principle has commonly been interpreted to mean that the long-range improvement of living creatures is entirely due to the "laws of chance" and that no guiding principle or directing influence is needed. The neo-Darwinists developed the natural selection principle into a cult and it became highly objectionable in scientific circles to mention the name of God. For many years this materialistic attitude was considered synonymous with evolution. Today, however, that is no longer true; even the atheistic type of scientist is discarding Darwin's natural selection principle as totally inadequate to explain evolutionary progress. Scientists today know too much about the complexities of life and of living things to accept Darwin's rather crude hypothesis as a solution of the evolutionary problems. Yet the general theory of evolution is more firmly established than ever.

"Descent of Man"

33. Darwin wrote another book called the *Descent of Man* in which he fails to acknowledge an essential difference between man and animal, between spirit and matter. He was strictly a scientist, working primarily with the scientists's implements, the scalpel and the

lens, and dealing only with the animal organism. In so far as he knew the human body it was no more than an animal organism, with the nervous system, instincts and psychology of an animal. Engrossed in details as a scientist should be, he fell a victim to the one-sided viewpoint to which specialists are prone, and neglected to take into account what should be obvious—that united with the human organism is a reasoning spirit and a free will. He thus laid the foundation of a dangerous philosophy.

Creation of Man

34. To the Christian thinker it is very obvious that man is more than an animal. He accepts the teaching of the Book of Genesis that the first man and woman were created by Almighty God, not as other living things had been made, but in a very special way. The language which is used to describe the creation of sub-human life is as follows: "Let the earth bring forth the green herb . . . and . . . the beasts of the earth. Let the water bring forth the creeping creatures having life, and the fowl that fly over the earth . . . and it was so done, and God saw that it was good." In creating man, however, God said: "Let us make man to our image and likeness, and let him have dominion over the fishes of the sea, and the fowls of the air, and the beasts, and the whole earth. . . ." And again: "And the Lord God formed man of the slime of the earth; and breathed into his face the breath of life, and man became a living soul."

35. From the religious point of view the scriptural information is all that we need to know. Scientists, on the other hand, investigate how the "slime of the earth" is transformed into a human body; that is their special assignment. With respect to the origin of the first man

they are now carrying on research in that direction, and the lay world is well advised to wait until the experts have generally agreed upon a satisfactory answer. We must remember always that the formation of the human body is not the creation of man; it is rather a preparation for the creation of the spiritual soul which makes us what we are, creatures to the image and likeness of God.

Prehistoric Man

36. Scientists have long been studying the skeletal remains and the artifacts of several prehistoric races. Recent discoveries suggest that these races fall into three natural groups: the Far East group which includes the Java man and the China Peking-man; the Neanderthal group of Europe and South Africa; and the later Cro-Magnon type found in Europe and in Galilee. The first group is sometimes referred to as *Homo erectus*, the second as *Homo neanderthalensis*, and the last is considered an early version of modern man or *Homo sapiens*. Whether all the earliest prehistoric men were members of our own race is not yet clear; the more common opinion among scientists at the moment is that the Oriental *Homo erectus* had intelligence but was mentally somewhat "subnormal" as compared with modern Europeans. How long ago these Oriental "dawn men" lived is not known; the guesses range from one hundred thousand to over five hundred thousand years.

37. The European Neanderthal man, about whose kinship with modern man there is now little doubt, and the Cro-Magnon man, came later, but even they date back far beyond the traditional six thousand years. These pioneers of the old stone age had developed a considerable culture long before the Egyptians and Babylonians began to keep written records. We have

recovered their tools, their paintings and carvings; they were contemporaneous with the great mammals of the Ice Age, they lived in some of the interglacial periods. We are able to speak now with reasonably exact knowledge of men that lived in both the old and the new world ten or twenty thousand years ago. A careful study of the varves in Scandinavian lakes and of the age of the Niagara gorge in this country dates the retreat of the last ice mass rather accurately, and we know definitely that men lived in Europe even before that time. A minimum of some thirty thousand years is demanded for the age of man on earth. More common is the opinion that he has been here for hundreds of thousands of years.

38. This long history of mankind is not as extravagant as may seem to those who have not given the matter any thought. Early human history should begin, if we had the records, with fallen man, and with such a beginning it seems reasonable that the development of civilization was extremely slow.

39. The following quotation from a Catholic writer will be helpful in reconciling Bible genealogy from Adam to Abraham: "Now it is of course perfectly obvious that man must have passed through all these stages (*viz.*, three of savagery and three of barbarism), since the only alternative supposition is one which no one holds, namely, that the arts and sciences were of divine institution. The only question which is here to our purpose is how long did the earlier stages last? The Bible, if interpreted as literal history, would lead us to suppose that the second generation of mankind had already attained to the pastoral and agricultural phases of society, and had built a 'city'; while Tubalcain, the seventh in descent from Adam, is represented as the father of metallurgy. The impossibility of a

literal interpretation of the history of the ante-diluvian patriarchs is, however, made plain for us by the fact that the Book of Genesis only allows nine generations between Adam and Abraham—a number of course totally inadequate to constitute anything but a tiny fraction of the time required by prehistoric archeology. We should, therefore, surely be dealing in an arbitrary manner with the Biblical text if we were to deny the possibility of the existence of countless generations between the Fall and the attainment by man of the arts of domesticating animals, of cultivating cereals, and of forging implements of metal” (Johnson, *Anthropology and the Fall*, p. 46).

The Nature of Man

40. Whatever may be the final scientific verdict on these discoveries, we cannot subscribe to the hypothesis that any subhuman animal organism gradually took on a human type of mind. Physically that transformation may have taken place in one way or another; so far as the body is concerned there are some anthropoid apes very similar to man. The chimpanzee is very near to us in that respect, and the fossil remains of *Australopithecus*, a South African ape, show a still more striking mixture of human and simian features. But we cannot emphasize too much that the body does not make the man; mentally the chimpanzee is perhaps the most highly endowed of beasts; and yet, in the sense of a human intellect it has no mind at all. It has the senses, memory, imagination, sense ideas and the association of sense ideas; and this type of mental equipment evolved with the evolution of the nervous system. It deals with the practical problems that face us in the material world, but it can never turn to a consideration of the immaterial, it cannot ask the ques-

tion *why*, it has no free will. Man has all that a chimpanzee has, but dominating over all that he has an intellect and a free will, that is to say, he has a higher nature which uses or should use the lower nature as its servant.

Man Has a Spiritual Soul

41. We stated above that Darwin unwittingly laid the foundations of a dangerous philosophy. His ideas were amplified and defended by Spencer and Huxley in England and finally carried to their logical outcome by Ernst Haeckel of Germany. Haeckel boldly proclaimed that the theory of evolution leaves no room for faith in the existence of God, the freedom of the will, or the immortality of the soul. Obviously there is no reconciliation between such "science" and the doctrine of Christ. Too often it is this kind of godless science that people have in mind when they hear the word evolution or Darwinism. No wonder the whole theory has a bad reputation; we are asked by these philosophers to give up all our most sacred convictions, belief in God, a future life, and personal responsibility. And what are we offered in their place? Blind forces and brute ancestry. That is what the anti-evolutionists justly fear and rightly condemn. If this is the kind of evolutionary teaching that legislators have attempted to ban, Catholics have no choice of sides in the controversy. It is a doctrine hostile to all religion and surely public schools may not teach it.

The body alone, with all its organs, including the brain and the senses and the imagination, does not make a man. We are human because of our intellect, our free will, and our immortal destiny. To deny our race these attributes, whether it be done through igno-

rance, through perversity, or in the name of science, is to prepare the way for the degradation of society and the despair of the individual.

The Intellect

42. We insist that man has an intellect and that the lower animals have not. The ordinary thinker, indeed, is quite positive that there is no comparison between the mentality of man and of animals. But some scientists insist that there is no essential difference, that it is all a matter of development. An example may illustrate how the confusion arises. A certain psychologist claims that he has a chimpanzee with the mental ability of a child of seven. And what does he mean by mental ability? An ape has a wonderful memory, a lively imagination, a great imitative faculty, strong habit forming abilities. All these faculties can be trained, and after years of drilling a chimpanzee can do things that a child of seven cannot do. But let us reflect a moment. A normal child of seven can reason, can count, can usually read and write simple sentences, is always asking questions, wants to know why, can sit down and figure out the answer to a question, has a sense of humor, a highly developed sense of right and wrong, and is always exquisitely self-conscious. No chimpanzee has even the rudiments of any one of these things. To the objection that we should not expect too much from a being deprived of the faculty of speech, we may answer that a deaf and dumb child can be taught almost as readily as one that speaks; and an ape has a tremendous advantage over a deaf and dumb child—it can hear, if it cannot pronounce. Had this particular scientist had a training in scholastic psychology, he could not have confused so completely the spiritual and animal natures of man.

The Will

43. We insist, secondly, that man is free. In some of his acts, at least, he is not obliged to follow blind impulses as is the animal organism. He can choose between right and wrong; can follow the right even though the temptation to do wrong is great.

Immortality

44. And lastly, the Christian knows that his soul will not die. This knowledge is his most precious possession, and for it he can never be indebted to the scientist. Unaided reason may hesitate to accept this truth. The logic involved in proving it is complicated, and few minds are able to do sustained clear thinking on abstract principles. First, one must form a correct idea of God, not only a powerful God, but a good and loving Father. Then one must look into his own soul, a thing that cannot be done with physical eyes or any other of the five senses. One must understand the hopes and fears, the longings and yearnings, the loves and aversions of his own soul; he must admit that these are at least as real as the physical body and the material universe that the scientist strives to understand. When he has done this thoroughly, when he has faced the world not in its material aspect only but in its full reality, then the conviction of immortality becomes irresistible.

45. Sound and perfect reason will convince men that there is a life after death; but the Christian does not rely on his unaided reason. Enlightened by faith, he sees the reasonableness of Christ's divinity, and once that is clear, he follows implicitly every doctrine that comes from his lips. One need not be a philosopher nor a theologian, much less a scientist, to understand

human nature and destiny; but one does need faith, and humility and love. "Not the clear-sighted but the pure-hearted shall see God in nature."

The Catholic Church and Evolution

46. As a class Catholics are less disturbed than their Protestant brethren by the evolutionary problems. Most of their spokesmen tend toward acceptance of a moderate form of the theory, and one of them at least (Canon de Dorlodot of Louvain) outdoes Darwin in his enthusiasm for the theory of absolute natural evolution. As long as they leave Almighty God in His place and admit that the human soul is radically different from the animal soul, the Church does not interfere, the matter is outside the sphere of religion.

The Human Body

47. One is often asked: Just what does the Church teach concerning human bodily evolution? The answer is clear: the Church has never taught anything concerning the theory of organic evolution; there are no decrees or definitions touching directly on the matter; we have to sense the mind of the Church from the private opinions of individual churchmen. As long as these opinions are not unanimous—and they are far from it at the present hour—one can only say that the Church has no official attitude on the matter. She has consistently refused to give her approval to either party in this scientific controversy; and we may confidently assume that whenever the theory of evolution is confined to the animal element in man, she will leave the matter in the hands of men of science for free investigation.

The Human Soul

48. There is such a science as the zoology of man; the Church has nothing to say about that science. But when you include in that science not only my bones, muscles, heart and lungs, liver and brain and nervous system; when you include therein that in me which thinks about all these other things; that in me which knows and wills; then the Church says, No! Because that is the soul, that is the immortal thing in me, it has no affinity with the brutes, it is that for which Christ suffered and died. Because evolutionists do not distinguish well between body and spirit, because they often insist that man is a body only and has no principle different from that of lower life, the Church has sent out a warning against the dangers of modern science. The dangers are real. Whenever men become convinced that the doctrines of Ernst Haeckel in nineteenth-century Germany or of A. J. Carlson in twentieth century America are true, they will tend to live accordingly. The Nazi mentality of World War II was the spiritual offspring of those German scientists and philosophers who denied the Christian teaching on the nature of man and of God. Such new doctrines are frowned upon at first by the non-intellectual masses; but over a period of two or three generations they become progressively more and more acceptable until a sufficiently large number of people are infected so as to make possible a Nazi type of society. When men question the spirituality of the human soul the foundations of society are shaken.

Genuine Science

49. But true science does not teach such things. Because some who claim to be scientists—whether they actually are does not matter—have preached pernicious

doctrines, does not justify us in throwing discredit upon the real work of science in its own legitimate field. Those who oppose sound scientific theories, such as the general theory of evolution has a right to be called, are doing harm to the cause of truth. Catholics especially should be ready to accept new findings in the scientific world without losing their grasp on the more fundamental truths of religion. *Nova et vetera*. Hold fast the old while profiting by the new, that is the course recommended to us by the great Pope Leo XIII.

The Bible Not a Textbook of Science

50. In conclusion we may reiterate the principle set down in the beginning: the Bible is not a textbook of science. It teaches religious truths only, and it does this in language that is popular, not scientific. The Sacred Text is meant for all men, the ignorant as well as the learned, for those who lived centuries ago as well as for our modern intellectuals. Even then we have the word of St. Peter that Scripture contains "certain things hard to be understood, which the unlearned and unstable wrest to their own destruction." We may not, for instance, infer from the words, "The Lord God made man from the slime of the earth, and breathed into his face the breath of life," that God acted in a human manner; that he molded a body as a human sculptor might and breathed with a physical effort. God is a spirit, and such actions can be attributed to Him only in a figurative sense. He has His own way of doing things. All that revelation tells us is that He made man, made him body and soul. His body is made of the dust of the earth; but that is scarcely the important message, except as a reminder, because we know from observation that every particle of bone and flesh is nothing more than transformed

soil and water and air. How that transformation of dust into flesh is accomplished may well form the subject matter of scientific investigation. What Scripture wants to tell us is that God made man, not how He made him. The fact that God is our Father is the important religious truth that men are in danger of forgetting.

51. In schools where God's name may not be mentioned something must take His place; and today there is real danger that this something will be a system of unbelief which masquerades under the guise of scientific evolution. Such a system will surely work havoc with the hearts and souls of children. Science without religion is dangerous. Catholics in their own schools can teach evolution without fear because with it they teach religion. The public schools cannot do this and the situation often becomes a trying one for them. There is much valuable truth to be learned from the theory of organic evolution; but divorced from religion the doctrine becomes a dangerous half-truth.

A Few References for Further Study

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DISCUSSION CLUB OUTLINE

1. THE BIBLE AND CREATION (Paragraphs 1-7)

- When was the biblical account of creation set down in writing?
 What great truths does it emphasize?
 Describe the environment of the Hebrews at the time it was written.
 What is a legitimate interpretation of the phrase: "Let the earth bring forth the green herb"?
- In what respect is man a very special creature of God infinitely above all other material things?
 In what respect is it true that the body of every man, not only that of Adam, is made of the slime of the earth?
 Does God breathe a living soul into each human being?
 For what people was the Old Testament primarily written?
 What were the great dangers to which the chosen people were exposed?
 What is the one and only purpose of the scriptural account of creation?
 Why are all material creatures called *good* by the sacred writer?
 Why should the Mosaic account not be looked upon as a scientific document?
 In what way, nevertheless, is there a suggestion in Genesis of modern scientific evolutionary doctrines?

2. GEOLOGICAL FACTS (Paragraphs 8-13)

What is the science of geology?

What are fossils?

How do the remains of organisms become imbedded in the rocks?

What kind of living things existed when the earlier rocks were formed?

What was the origin of coal?

Were the great coal deposits formed before or after the age of fishes?

Does geology show that warm-blooded land animals came later than the lower forms of life?

On what day does Genesis record that the beasts of the field were made?

Can there be any question that the fossils were once living creatures?

Is it certain that these extinct forms of life were the ancestors of modern living things?

What sciences are today co-operating toward a solution of this problem?

What is a working hypothesis?

How does the geologist know that the earth is many millions of years old?

3. EARLY OPPOSITION TO THE THEORY OF EVOLUTION (Paragraphs 14-17)

Why was the theory of evolution at first rejected by the scientists themselves?

Why were Protestants particularly hostile to the theory?

Why did theologians generally not accept the new theory?

When and by whom was the modern theory of evolution first outlined?

Why was the theory not accepted by scientists generally until toward the end of the nineteenth century?

What did Ernst Haeckel claim for the new theory?

Does the theory, if accepted, compel men to reject some of their former convictions?

Are any of the ideas that must be abandoned in the light of the new theory an essential part of Christian teaching?

Was it the science or the philosophy of the early evolutionists that was dangerous?

Do you think that men like Haeckel became atheists because of their science or were they atheists to begin with?

Exactly why is evolutionary philosophy dangerous?

Are atheistic evolutionists as numerous today as they were forty years ago?

What connection is there between materialistic science and the Nazi creed?

4. SCIENCE AND RELIGION COMPARED (Paragraphs 18-22)

With what type of problems is the evolutionary theory concerned?

Why is religion not directly concerned with these same problems?

Does science, as such, investigate the *ultimate* causes of natural events?

Explain the difference between proximate and ultimate causes using the corn plant as an illustration.

Can an atheist be a good scientist? Explain.

Is the origin of new species a scientific or a religious problem?

If new organic species originate through an evolutionary process is it still true to say that God created each species?

Explain again why Christians and even theologians were at first slow to admit the reasonableness of the evolutionary theory.

Why did the idea that the earth is millions of years old meet with such strenuous opposition?

What is the attitude of most theologians today toward the scientific theory of evolution?

Why should this change in the attitude of Catholic theologians be considered a sign of healthy progress rather than the reverse?

5. GOD'S METHOD OF CREATION (Paragraphs 23-31)

Does a robin's egg contain a young robin or rather something which is not a robin but may develop into one?

May the development of the bird in the egg properly be called a creative process?

Why can a scientist not discover God's creative hand in this process?

What does one learn from observation about God's method of creating things?

Is it necessary that one's observation be on a scientific plane in order to learn this lesson?

Why is it often true that the non-technical observer is more ready to believe in God than the highly trained investigator?

Is God more than a Creator?

Why is it folly to call God a blind force as some scientists do?

The ideal scientist is reverent in the presence of the mysteries of nature. Are the majority of scientists ideal in this respect?

Is it a plausible theory that all the varieties of modern birds are descendent from a single type of ancestral bird?

Is it a plausible theory that the lowly living things created in the beginning were the seed-like ancestors of all higher creatures which exist today?

If evolution is true why does the Bible not refer to it?

How can the theory of evolution provide matter for meditation on the greatness and eternity of God?

6. DARWINISM. EARLY MAN (Paragraphs 32-39)

Was Charles Darwin the first scientist to propose the theory of evolution?

What is the difference between the general theory of evolution and Darwin's theory of natural selection?

Did Darwin recognize an essential difference between man and animal?

How does Sacred Scripture drive home the fact that man is more than an animal?

Name some of the races of early man.

Does the Bible give us any information concerning the history of men immediately after the fall?

Do we have any definite scientific knowledge about prehistoric men?
How long ago is man known to have lived on earth?
How has the approximate date of the last ice age been determined?
Is it reasonable to suppose that a long period of time intervened
between the fall and the beginnings of civilization?

7. MAN'S HIGHER NATURE (Paragraphs 40-45)

Was Darwin himself a professed atheist?
Show that his premises, *e. g.*, that man is no more than an animal,
tend towards an atheistic philosophy of life.
What three fundamental principles of religion did Haeckel deny?
Was this denial a conclusion drawn from his scientific studies, or
was it the result of his atheistic outlook on life?
How does this false union of science and atheism explain the sub-
sequent antagonism to the new theories?
What qualities in man differentiate him from the brute?
Does an ape have any sort of mentality?
What human faculties does an ape not have?
Do lower animals have freedom of choice and consequently responsi-
bility for their acts?
Can scientists as such demonstrate the immortality of the human
soul?
Must one believe in God before the conviction of a hereafter for the
soul is possible?
Is science alone a trustworthy guide in matters of religion?
Why is a brilliant intellect insufficient to bring conviction in such
matters?

8. THE CHURCH AND EVOLUTION (Paragraphs 46-51)

Are Catholics free to accept the theory of evolution?
What are the only reservations the Church must insist upon?
Has the Church any official attitude toward the doctrine of the evo-
lution of the human body?
Are Catholic theologians agreed on this problem?
May a Catholic believe in the evolution of the human soul from
animal souls?
State clearly why the human soul cannot be the product of an evo-
lutionary process.
Should Catholics condemn the theory of organic evolution?
Must they condemn the theory of philosophical evolution, meaning
by that the widely accepted doctrine that evolution is an ultimate
principle which does away with the need of a Creator?
Distinguish carefully between the scientific theory of organic evo-
lution and the philosophic evolutionary theories.
Explain briefly why one should not look for scientific data in the
Bible.
Why can the expression: "God breathed into his face the breath
of life" not be taken literally?
Why is it dangerous to teach evolution without a religious back-
ground?
Summarize the Catholic ideal in problems of this kind by para-
phrasing the motto: *Nova et Vetera.*

