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Evolution and Religion

Facing the Facts

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THE PAULIST PRESS
401 West 59th Street
New York, N. Y.

Nihil Obstat:

CHARLES H. METCALF,
Censor Librorum.

Imprimatur:

✠ J. H. SCHLARMAN,
Bishop of Peoria.

Peoria, December 26, 1930.

PRINTED AND PUBLISHED IN THE U. S. A.
BY THE PAULIST PRESS, NEW YORK, N. Y.

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Evolution and Religion

Facing the Facts

A Genetic Study in Contemporary Religious Thought

BY REV. JOHN A. O'BRIEN, PH.D.

Chaplain of the Catholic Students at the University of Illinois

"By identifying the new learning with heresy, you make orthodoxy synonymous with ignorance."—ERASMUS.

NO thoughtful person who is alive to the stirring of contemporary thought can deny that there exists in the minds of many sincere people the lurking suspicion of a latent antagonism between the findings of modern science and the content of Biblical revelation. Like certain trouble zones in the Balkan states where the smoldering fires of racial animosity burst periodically into flame, so this viewpoint maintains, there are certain areas along the border line of science and religion where the antagonism flares occasionally into open warfare. The efforts that were made in recent years in several southern states to enact legislation to prohibit the teaching of evolution in the public schools point clearly, it would seem, to one area where the conflict has been unmistakable. The fact that A. D. White's *History of the Warfare between Science and Theology* has passed through at least fifteen editions, is grim evidence of the widespread character of this impression of conflict.

The trouble zone that has been the scene of most

of the fighting since 1859 when Darwin published his epochal work, *The Origin of Species*, has been that of evolution. The findings of comparative anatomy, genetics, embryology, taxonomy, serology, and paleontology point to the progressive ascent of life on this planet from the lowest and simplest forms to the highest and most complex, reaching up to and including man. Science tells us that millions of years were required for the development of the various species of plant and animal life, and that the antiquity of the human race itself is greater by hundreds of thousands of years than the brief span of six thousand years which was generally accepted up to seventy-five years ago.

In other words the curtain has been lifted somewhat upon the prehistoric past, and there is gradually filtering through into the mind of the man in the street the concept that all forms of life upon the earth trace their roots far back to preëxisting organisms which have evolved slowly through the ages in response to the play of inner forces and of changing external environment. The world of living organisms is thus seen to be dynamic, eternally changing instead of being static, with form, structure and function remaining forever fixed and constant, as was formerly imagined. The species of plants and animals that now exist were not created directly and immediately by God, but are the results of progressive evolution from simple rudimentary organisms through many millions of years.

A New Outlook

These new findings of modern science concerning the approximate antiquity of the earth and of life upon it, including human life, and of the factors influencing their development are undoubtedly effect-

ing profound changes in the *Weltanschauung* or world view of millions of educated people at the present day. But is there a single finding of modern science concerning evolution which undermines any of the foundations of the Christian religion, or lessens the need for a Supreme Intelligence behind all the processes of nature and of the universe? Is the truthful character of Biblical revelation brought into question by the findings of evolution? Does evolution possess intelligence and does it act as a causal agency or is it merely *a method, a process* whereby a Supreme Intelligence—acting in conformity with laws which He has established and infused into the very nature of the physical universe and of organic life—has guided the development of all botanical and zoölogical life upon the planet to higher and more perfect adjustments, and therefore to a richer and fuller life?

These are questions which are agitating the minds of millions of thoughtful people today. Alike unwilling to discard the most treasured teachings of the Christian religion, and to ignore the unmistakable findings of modern science, they are anxious to effect a rational and not a merely emotional harmonization of their religious faith with their scientific creed. Such a concordat can be effected not by ignoring the evidence on one side and focusing the attention on the other side but only by frankly facing all the evidence and following it to its logical conclusions. It is becoming increasingly apparent that undisturbed acquiescence in one's religious faith is not to be secured by constantly seeking to minimize the force of the clearly established facts of evolution, much less by denying them outright. Back in the sixteenth century Erasmus significantly observed: "By identifying the new learning with heresy, you make orthodoxy synonymous with ignorance." The observation of

Erasmus applies with equal force to our day and to the new body of knowledge furnished by the various evolutionary sciences already mentioned.

“The real enemies of the Christian faith,” says a profound student of contemporary religious life, “are not the evolutionary biologists; it is those who insist on setting up artificial adhesions between Christianity and out-grown scientific opinions and proclaim that we cannot have the one without the other.”

Most of the controversy on this subject in the past has been characterized by a strong partisan bias with much questioning of the motives of opponents and with a pronounced tendency to ridicule and disparage the evidence cited. The controversies have usually yielded more heat than light because the impartial objective attitude was lacking and the writer too often sought to make his case by riding roughshod over the evidence, either ignoring it or holding it up to ridicule. It will be the endeavor in this discussion not to blink the facts, but to look them fairly in the face and to appraise them at their true value. In determining whether a principle of science has been definitely established or is merely a conjecture or an hypothesis, the verdict of men of science who are speaking within their own domain will be given more weight than the word of theologians, while in matters of scriptural exegesis and in those questions which lie in the province of the philosophy of religion, the opinion of scholars specially trained in these fields will be weighed accordingly. It is thought also that it will conduce greatly to the clarification of the discussion if a sharp line of demarcation is drawn between the scientific facts cited and the philosophical interpretation of these facts which is so often given by the scientist. In this way we will know at least where science ends and philosophy begins.

The Meaning of Evolution

The fundamental meaning of evolution is that there has been a development from simple rudimentary organic life to higher and more complex forms. Functions which were originally performed by a single protoplasmic cell are now discharged by separate organs highly specialized for that specific task. Thus an amoeba, a unicellular organism that floats about in a drop of water, so infinitesimally small as to be invisible to the naked eye, manages with its one cell to assimilate food and to propagate its kind though it is completely lacking the special organs which are usually associated with such functions. Evolution represents a progressive march upwards from simple, rudimentary, homogeneous organisms to higher, complex, heterogeneous organisms with specialized organs for different functions. That, in brief outline, is the general picture of evolution.

Darwinism which is generally associated in the mind of the layman as synonymous with evolution is used by the scientist to describe the particular causal agency advanced by Darwin to explain evolution, namely, natural selection leading to the survival of the fittest. While the majority of scientists today no longer admit the sufficiency of natural selection alone to explain evolution, and may be said therefore to have discarded Darwinism, there is probably no scientist of repute in the world today who does not admit the fact of evolution in the sense of a progressive development to higher and more complex forms of life.

Evolution cannot be demonstrated in the same manner as a principle of mathematics or a theorem of geometry. It is arrived at inferentially as a result of the observation of a great number of facts scattered over many fields. It gives unity and significance to

data in such widely different fields as paleontology, embryology, comparative anatomy and biology, which otherwise would be incoherent and meaningless. As most of the evidence relates to changes in the remote past, it must by its very nature be indirect and largely circumstantial since no living eyewitness was present to note the happenings, and no documents were then written in human language. Corroborative evidence is gleaned from changes which are occurring in living species within our own day, but most of the data must be dug from the strata of the rocks in the form of the fossil remains of plants and animals.

Evidence from Paleontology

Paleontology, which probably offers the strongest evidence for evolution, has clearly established the existence of a gradual progression from simple rudimentary organisms to higher and more complex forms as one advances from lower to higher strata of rock. The evidence indicates that higher structures of animal life, such for example as the vertebrates—animals having a backbone—did not exist during the early stages of animal life but made their appearance only at a comparatively recent date.

Old estimates as to the age of the earth and of life upon it must be revised radically in the light of recent scientific evidence. According to the most recent computations based on the rate of radium emanation, a period of approximately 1,000,000,000 years has elapsed since the earth attained its present diameter. Estimates concerning the length of time that has elapsed since life first appeared upon the globe range from 50,000,000 years upwards to approximately ten times that figure. These are, of course, only estimates but they represent the general drift of scientific

thought on the subject, and the writer sees no reason for constantly seeking to minimize them. The age of the earth and of life upon it, no matter what antiquity be imputed to both, does not disturb any principle of the Christian faith or of the Biblical revelation when the latter is properly understood. This reference to the age of the earth and of life upon it is made to show that geology offers abundant time for the slow gradual transition to constantly increasing higher forms of which the paleontologist finds a written record, and for each step of which he postulates vast periods of geological time.

Evidence from Comparative Anatomy

Comparative anatomy reveals that in the animal kingdom there are several distinct main types of architecture, each of which characterizes one of the main divisions of the kingdom. "Within each of these great assemblages of animals characterized by a common plan of organization," says Professor H. H. Newman, Professor of Zoölogy at the University of Chicago, "there are almost innumerable structural diversities within the scope of the fundamental plan. These major or minor departures from the ideally generalized condition remind one of the variations upon a theme in music: no matter how elaborate the variation may be, the skilled musician recognizes the common theme running through it all. This fundamental unity amidst minor diversity of form or of function is looked upon as a common inheritance from a more or less remote ancestor. In animals belonging to the same group and therefore having the same general plan of organization we find many organs having the same embryonic origin and the same general relation to other structure, but with vastly

different superficial appearance and playing quite diverse functional rôles.”¹

Vestigial structures which are found both in animals and in man point significantly to an ancestorship in which these were functional and useful. They are meaningless and incoherent except on the assumption of evolution. Few laymen realize how numerous these lingering echoes of a remote past are in the body of man. According to Widersheim there are “no less than 180 vestigial structures in the human body, sufficient to make of a man a veritable walking museum of antiquities. Among these are:—the vermiform appendix; the abbreviated tail with its set of caudal muscles; a complicated set of muscles homologous with those employed by other animals for moving their ears, but practically functionless in all but a very few men; a complete equipment of scalp muscles, used by other animals for erecting the hair but of very doubtful utility in man even in the rare instances when they function voluntarily; gill slits in the embryo, the homologues of which are used in aquatic respiration; miniature third eyelids (nictitating membranes), functional in all reptiles and birds, greatly reduced or vestigial in all mammals; the lanugo, a complete coating of embryonic down or hair, which disappears long before birth and can hardly serve any useful function while it lasts. These and numerous other structures of the same sort can be reasonably interpreted as evidence that man has descended from ancestors in which these organs were functional. Man has never completely lost these characters; he continues to inherit them though he no longer has any use for them. Heredity is stubborn and tenacious, clinging persistently to vestiges of all that the

¹H. H. Newman, Chapter on Animal Evolution in *Contributions of Science to Religion*. Edited by S. Mathews. Appleton, N. Y., 1927, p. 176.

race has once possessed, though chiefly concerned in bringing to perfection the more recent adaptive features of the race.”²

Evidence from Embryology

Embryology is the science which studies the various stages through which the fetus passes in its development from a single celled fertilized ovum to its appearance at birth. Students of this science have long noted that closely related adult species keep step most of the way through their ontogenies and diverge only toward the end of their courses. On the other hand distantly related species diverge early in their developmental paths, while unrelated forms usually have little or nothing in common from the beginning. In the embryonic development of members of the higher species, a sort of rough repetition of the characteristic features of many lower groups has been noted. This has been embodied in the so-called biogenetic law: ontogeny is a recapitulation of phylogeny. In less technical language this means that the different stages in the development of the individual reflect in a dim vestigial manner some of the principal ancestral forms from which the species is descended, the earliest embryonic stages resembling the most remote ancestors and the later stages being like the more recent ancestors. Professor H. H. Newman phrases it thus: “The developmental history of the individual may be regarded as an abbreviated résumé of its ancestral history.”

There is no denying that there are many gaps and ragged edges in the evidence on which the so-called biogenetic law is based. Probably the most that can be said for the embryological evidence is that it is suggestive in a general way and not demonstrative of

²*Ibid.*, p. 179.

ancestral relationships. It is to be observed, however, that the resemblances noted have no meaning or coherence save on the postulate of an evolutionary past.

“The embryology of man,” says Professor Newman, “is now pretty thoroughly known in spite of the great difficulty of obtaining the early stages. Step for step it is almost precisely like that of other primates, especially like that of the anthropoids, and it is only in the latest stages that it takes on distinctly human characteristics. This is not equivalent to saying that the expert embryologist is in any doubt as to the diagnosis of a human embryo no matter how early the stage, for there are specific features about all embryos from the egg stage on to the end of development that may be distinguished by any one sufficiently versed in the subject. In spite of these specific differences, however, there can be no question that the embryology of man and that of any of the anthropoid apes show the closest of resemblances at every stage and diverge sharply only in the late stages of prenatal life. So close a resemblance in developmental histories is found only in species that are members of the same ancestral stock, for they have both inherited the characteristic features of their development from their common ancestors.”³

The Fossil Pedigree of Man

Opponents of evolution often refer to it derisively as “the monkey theory” of man’s descent. But no scientist of repute in the world today maintains that man is a lineal descendant from the monkey, the ape, the gorilla or the chimpanzee. “Setting entirely aside these abandoned ape-monkey hypotheses of descent,”⁴ says Professor H. F. Osborn of Columbia University

³*Ibid.*, p. 193.

⁴H. F. Osborn, *Evolution and Religion in Education*. Scribner’s, N. Y., 1926, p. 143.

and the former President of the American Association for the Advancement of Science, "modern anatomy, anthropology, and paleontology are demonstrating in the most irrefutable manner that man has a long and independent line of family ascent of his own reaching far back to the Age of Man through the Pleistocene, Pliocene, and even Miocene epochs into Upper Oligocene time, a geologic period estimated not in hundreds of thousands but in millions of years."

Professor Osborn summarizes the following as "the outstanding irrefutable facts" concerning the geologic antiquity of man: "First, that man with a human form and human attributes has been on the earth over 500,000 years, according to the least estimates of geologic time. Second, that man belongs to a family of his own, called the *Hominidae*, which has a history entirely independent of all other families for an incalculable period of time—two and a half millions of years at the least geologic estimate. Third, that this human and prehuman family, composed of the existing and prehistoric races of man, has from the first divided into many branches more or less rapidly progressive and intelligent. Fourth, that we have indisputable records of the early dispersal of these branches in central, southern, and eastern Asia, in all except the northern parts of Europe, in the British Isles. Fifth, that our present knowledge both of the anatomical characters and of the cultural unity of even the earliest known branches of the human race points to descent from a single geologically remote human stock, the blood and heritage from which constitute a prehistoric brotherhood of man. Sixth, that convincing evidence of these outstanding facts of early human history rests, first, on the indestructible flint and stone industry interpreted; second, upon absolutely consistent anatomical evidence clearly inter-

preted by four generations of expert and conscientious observers drawn from the ranks of laymen, of learned professions, and of the clergy, especially of the Roman Catholic Church.”⁵

While the fossil remains relating to prehistoric man and to the alleged transitional forms through which man emerged from animal ancestors have received divergent interpretations at the hands of various scientists, this should not blind us to the fact that there is practically unanimous agreement among them that the evidence points clearly in the direction of such a transition. There is disagreement as to the interpretation of the details in the story but no substantial disagreement as to the general direction in which the evidence points.

Additional evidence of the fact of evolution might be drawn from: 1. taxonomy, the science of classification; 2. serology, the science of blood tests; 3. geographic distribution, the study of the horizontal distribution of species upon the earth's surface; 4. genetics, the analytic and experimental study of evolutionary processes going on today. It is thought, however, that the evidence which has been briefly outlined from paleontology, comparative anatomy, and embryology will be sufficient to indicate the chief lines of converging data which have led scientists to regard evolution no longer as a conjecture or a hypothesis, but as a principle inferentially but validly established.

Evolution—Theory or Fact?

Anti-evolutionists are wont to point to disagreements among scientific specialists as to the causomechanics of evolution, thus seeking to give the impression that there is widespread disagreement among scientists themselves as to the fact of evolution. If

one will, however, read the works of the scientists in question, he will find that practically without exception they are in general accord concerning the fact of evolution. The discord concerns only the relative significance to be attached to the various detailed factors in the causo-mechanics of evolution. Such variety of opinion among experts concerning the relative importance of various factors in bringing about a result which is universally recognized is to be found in all the natural sciences.

Professor Newman offers the following striking parallel from embryology: "At the present time descriptive embryology is a mature science. We have detailed information as to the development of a large number of different organisms from the egg to the adult stages. Not only the fact of individual development in general has been established and can be demonstrated even to a child, but we have a great deal of technical information as to the modes and mechanics involved in growth and differentiation. In spite of all this knowledge of observed phenomena, we are almost totally in the dark as to the real causes underlying development. We do not know anything about the motive power of development nor why any particular adult form is assumed. We are as yet unable to determine just what rôle the environment plays in development, nor yet the exact mechanism of heredity. These and other technical difficulties have absolutely no bearing on the plain facts of development. In exactly the same way we are justified in claiming that the fact of evolution is in no sense weakened because advancing knowledge has revealed to us some elusive and intricate features associated with the causo-mechanical explanations of the facts."⁶

A prolific cause of misunderstanding among the

⁶H. H. Newman, *Contributions of Science to Religion*, p. 164.

opponents of evolution has been the failure of many of them to appreciate the two widely different senses in which the term Darwinism is used at the present time. As already pointed out, Darwinism is generally regarded by the man in the street as synonymous with the general theory of evolution, while to the scientific specialist it signifies only the particular causal theory which Darwin advanced to explain the origin of the species, namely, the theory of Natural Selection. The opinions of scientists as to the adequacy of this particular theory to explain in causal terms the phenomena of evolution differ widely. There are almost as many different opinions as there are scientists. Some attach even greater importance to this theory than did Darwin, others regard it as totally discredited, while the majority range in between these two extremes. It is a not uncommon practice of anti-evolutionists to use a quotation from a scientist expressing strong disagreement with Darwinism in its technical sense, to convey the general impression to the popular mind that scientists themselves are discarding evolution.

That this practice of anti-evolutionists has not made a favorable impression among scientists either as to their capacity for discernment or as to their intellectual honesty is evident from the following observation of the distinguished scientist, H. H. Newman: "Some of the leading opponents of evolution, with what I am forced to believe amounts to disingenuousness, refuse to see that there is a sharp distinction between Darwinism used as a synonym for the Principle of Evolution and Darwinism used in the narrower technical sense as merely the mooted theory of Natural Selection. Taking advantage of the dual use of the term Darwinism they make the unqualified claim that most of the leading evolutionists of the present time have lost confidence in their theory, and

are on the point of abandoning it. Unless they hold that the end justifies the means, it is difficult to understand how honest men could allow themselves to descend to so obvious a form of verbal trickery. The plain truth of the matter is that never before in the history of science has there been so nearly a unanimous acceptance of the Principle of Evolution and so little consensus of opinion as to its causes."⁷

The reaction of university students and of educated people generally to such polemical methods is distinctly unfavorable to the anti-evolutionists. For such people, knowing as they do, that the authorities cited regard evolution as a thoroughly established principle of natural science, though they disagree among themselves about the causo-mechanical details of the process, cannot fail to conclude that a case which has to be bolstered up by such dialectical tactics is a mighty weak one indeed. The reaction does not stop with its unfavorable impression of such disingenuousness on the part of the opponents of evolution but generally extends to the cause they seek in this misguided manner to advance, which is not infrequently the cause of religion itself. Instead of helping religion they tend to bring it into discredit among educated people.

The Answer of Scientists

Is evolution a theory or an established law of science? Henry Fairfield Osborn, Professor at Columbia University and one of the most eminent living authorities in the world on evolution, who was honored by his fellow scientists by being elected President of the American Association for the Advancement of Science for 1928 answers:⁸ "No living naturalist, however, so far as I know, differs as to the immutable

⁷*Ibid.*, p. 165.

⁸H. B. Osborn, *Evolution and Religion in Education*, pp. 29-33.

truth of evolution in the sense of the continuous fitness of plants and animals to their environment and the ascent of all the extinct and existing forms of life, including man, from an original and single cellular state . . . *Evolution is the most firmly established truth in the natural universe.*" Speaking of the scientists who are working in the fields contributing data on evolution, Professor Newman states: "Certainly not less than ninety-nine per cent of these accept the broad principle of evolution and consider it to be adequately established as a law of nature. The differences of opinion are not at all concerned with the fact of evolution, but with a far more difficult and purely technical matter, the exact causes and modes of evolution."⁹

Professor Bateson of England is often quoted by anti-evolutionists because of certain statements made in the course of his address before the joint meeting of the British and the American Associations for the Advancement of Science at Toronto as having discarded belief in evolution. Yet if one reads the address he finds that the doubt was concerning the causo-mechanics of the process and not at all concerning the fact of evolution. The newspapers gave great prominence to the doubt expressed, conveying the impression that the doubt concerned the general principle of evolution while they passed over in silence the following significant statement made by Professor Bateson after expressing the difficulties in the causo-mechanics of the process which still remain to be solved: "I have put before you very frankly the considerations which have made us agnostic as to the actual mode and processes of evolution. When such confessions are made, the enemies of science see their chance. If we cannot declare here and now how

⁹H. H. Newman, *Contributions of Science to Religion*, p. 164.

species arose, they will obligingly offer us the solutions with which obscurantism is satisfied. Let us then proclaim in precise and unmistakable language that our faith in evolution is unshaken. Every available line of argument converges on this inevitable conclusion. The obscurantist has nothing to suggest which is worth a moment's attention. The difficulties which weigh upon the professional biologist need not trouble the layman. *Our doubts are not as to the reality of evolution but as to the origin of species, a technical, almost domestic, problem. Any day that mystery may be solved.*"¹⁰

In the judgment of that eminent scientist, Edwin G. Conklin, Professor of Zoölogy at Princeton University, the evidences of evolution "are so numerous and come from so many sources that no intelligent man can study them at first hand and not be impressed with their importance. As a consequence *there is probably not a single biological investigator in the world today who is not convinced of the truth of evolution.* The fact that these evidences accumulate year after year, often coming from fields which Darwin and his contemporaries never dreamed of, is still more convincing. I once heard Lord Kelvin, the great physicist, say that any hypothesis or theory if true should find new support continually as knowledge advances. This is just what happened in the case of evolution.

"The Hotspurs who demand that evolution be re-enacted 'while they wait' should emulate the example of Josh Billings who said that he had heard that a toad would live 400 years; he was going to catch one and see for himself! The evidences for the major transformations in the evolution of man are not personal demonstrations since they do not fall within the

¹⁰Conklin, *Evolution and the Bible*, p. 9. The American Institute of Sacred Literature, Chicago, 1929.

lifetime of a single individual, nor indeed within the era of recorded history, but *they are the same sort of evidences as those for mountain-building, stream erosion, glacial action or any other change involving long periods of time.*"¹¹

Perhaps the most authentic and impressive expression of the mind of scientists on this subject was that which was given to the press of the nation during Christmas week of 1922 by the Council of the American Association for the Advancement of Science which was then holding its seventy-sixth meeting at Boston. The Council sought to reflect the conviction not only of the 2,000 scientists there assembled but also of its total membership of 11,000. The statement reads: "The council of the association affirms that, so far as the scientific evidences of the evolution of plants and animals and man are concerned, there is no ground whatever for the assertion that these evidences constitute a 'mere guess.' No scientific generalization is more strongly supported by thoroughly tested evidences than is that of organic evolution.

"The council of the association affirms that the evidences in favor of the evolution of man are sufficient to convince every scientist of note in the world. The evidences are increasing in number and importance every year."

The writer is not aware that any member took exception to this statement as not reflecting accurately and honestly the mind of the membership of the association. While similar expressions of scientific endorsement could be presented almost indefinitely, the ones already mentioned will suffice to show the reader the answer which scientists give to the query: "Is evolution a theory or an established principle or law of science?"

Who is in a position to give a competent answer to this question, a scientist on the one hand, or a philosopher or theologian on the other? Since the matter is one which lies clearly in the domain of natural science concerning which a Divine revelation has never been given, it is obviously within the jurisdiction of the scientist. It is a question of fact. The scientist proceeds by gathering data from every possible source. He assembles all the evidence, and carefully examining it, says: Evolution alone enables us to understand all these multitudes of facts gathered from many different fields of natural science; without it they are meaningless and incoherent. Since it offers the only satisfactory explanation of all these facts, and is the only solution which at the present time has any basis in factual evidence, we regard it as a well established principle or law of nature.

That, after all, is all that any law of natural science is—the explanation which best fits the known facts. If new facts are discovered which do not agree with the existing law, science proceeds to modify the statement of the law until it fits all the known facts. That is the character of the law of gravitation, the law of motion, the law of the conservation of energy and of all the other laws of natural science. They are all established laws, only in the sense that they fit the known facts. They are not established as metaphysical laws in the sense that they are absolutely immutable and beyond the possibility of modification by the finding of new evidence from the physical sciences. This then is the sense in which the scientist maintains that evolution is an established law or principle of natural science.

The spectacle of the philosopher or the theologian invading the premises of natural science and undertaking to lecture the scientist as to what is a theory

and what is a law or principle of natural science, as those terms are used by the scientist, is not calculated to impress favorably the impartial observer. It is the case of a theorist unfamiliar with the concrete realities essaying to combat a man armed with the actual facts. Carlyle aptly describes the inevitable result of such an encounter: "The man of theory twangs his full-bent bow; nature's fact ought to fall stricken; but does not; his logic-arrow glances from it as from a scaly dragon and the obstinate fact keeps walking its way. How singular!"

The Warning of St. Augustine

Such encounters are not new but have been with us throughout all history. Back in the fourth century St. Augustine, Bishop of Hippo, scriptural scholar and theologian that he was, cautioned his fellow Christians against lecturing the naturalist on the phenomena of nature: "It very often happens that there is some question as to the earth or the sky, or the other elements of this world—respecting which one who is not a Christian has knowledge derived from most certain reasoning or observation, and it is very disgraceful and mischievous and of all things to be carefully avoided, that a Christian speaking of such matters as being according to the Christian Scriptures, should be heard by an unbeliever talking such nonsense that the unbeliever perceiving him to be as wide from the mark as east from west, can hardly restrain himself from laughing."

"And the real evil is not that a man is subjected to derision because of his error, but it is that to profane eyes, our authors (that is to say, the sacred authors) are regarded as having had such thoughts; and are also exposed to blame and scorn upon the score of ignorance, to the greatest possible misfortune of

people whom we wish to save. For, in fine, these profane people happen upon a Christian busy in making mistakes on a subject which they know perfectly; how, then, will they believe these holy books? How will they believe in the resurrection of the dead and in the hope of life eternal, and in the kingdom of heaven, when, according to an erroneous assumption, these books seem to them to have as their object those very things which they, the profane, know by direct experience or by calculation which admits of no doubt? It is impossible to say what vexation and sorrow prudent Christians meet with through these presumptuous and bold spirits who, taken to task one day for their silly and false opinion, and realizing themselves on the point of being convicted by men who are not obedient to the authority of our holy books, wish to defend their assertions so thoughtless, so bold, and so manifestly false. For they then commence to bring forward as a proof precisely our holy books, or again they attribute to them from memory that which seems to support their opinion, and they quote numerous passages, understanding neither the texts they quote, nor the subject about which they are making statement."¹²

Undoubtedly one of the greatest scholars in the Catholic Church on the subject of evolution was the late Canon Henry de Dorlodot, D.D., D.Sc.,¹³ Director of the Geological Institute at Louvain University in

¹²*De Genesi ad litteram*, lib. I. cap. XIX.

¹³The writer acknowledges his indebtedness to Dr. Dorlodot for sending him several lengthy communications explaining in greater detail than in his published writings the basis of his interpretation of evolution in the light of the data of modern science and Biblical research. Written during the last three years of his life, his letters give evidence of the most painstaking scholarship and reflect the result of a lifetime of scientific study of this question and of its philosophical and religious implications. Dr. Dorlodot was quick to perceive that evolution far from minimizing the expression of the Creator's power, gave a grander and more exalted manifestation of it.

Belgium, and Foreign Correspondent of the Geological Society of London. In addition to being a geologist of international reputation he achieved the distinction of being recognized as an eminent Biblical scholar. Dr. Dorlodot observes that the wise admonition of St. Augustine just cited may be applied likewise to the scriptural scholars of his own day who "oppose Darwinism in the name of religion, or seek to hinder Catholics from professing it openly." Pointing out that religion is placed in an unfavorable light by people who insist on regarding the principles of the Christian religion as incompatible with evolution, he says: "People usually content themselves with pious wishes: 'Be careful: at the very least, do not affirm anything. Darwinism has done so much harm! It has been so much exploited against religion! And then there is the question of man!'

"We shall deal another time with this latter question. But why, then, has it been possible to exploit Darwinism so successfully against religion, if not because there have not been lacking Catholic authors who have compromised the Christian religion in falsely representing it as irreconcilable with scientific theories? And why has Darwinism kept certain scholars away from religion, if not because, seeing clearly themselves the truth of these theories, they have not even dreamt of studying the foundations of a religion which was made to appear to them as hostile to what they know to be the truth? In speaking in this way, I have before my eyes concrete instances, and I could also mention cases of scholars, and great ones at that, who have become converts because we ourselves have never been willing to listen to these timid recommendations."¹⁴

¹⁴H. de Dorlodot, *Darwinism and Catholic Thought*, Benziger Brothers, 1922, p. 62.

Dorlodot's Praise of Darwin

It is cause for rejoicing that the Catholic University of Louvain did not follow the cautions of such timid people who would make rejection of scientific truth the necessary condition for membership in the Christian faith, but followed the wise counsel of Leo XIII of "welcoming every wise thought and every useful discovery, whatever its origin may have been," and sent Dr. Dorlodot as the official representative of the University to the Darwinian Centenary at Cambridge University in 1909. On that occasion Dr. Dorlodot, in behalf of Louvain University paid the following notable tribute to the great contribution of Darwin: "It is no exaggeration to say that, in showing us a creation more grandiose than we had ever suspected it, Charles Darwin completed the work of Isaac Newton; because, for all those whose ears are not incapable of hearing, Darwin was the interpreter of the organic world; just as Newton was the voice from heaven come to tell us of the glory of the Creator, and to proclaim that the universe is a work truly worthy of His hand. And of these two illustrious interpreters of nature, who were nurtured by your glorious university, it is permissible to say with the psalmist:

"There is no speech nor language, where their voice is not heard.

"Their line is gone out through all the earth, and their words to the end of the world.'"

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EUROPE AND THE FAITH

By
HILAIRE BELLOC

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\$1.50

Published by
THE PAULIST PRESS
401 West 59th Street
New York, N. Y.

*"FOR THOSE WHO REVERE
CANDOR IN HISTORY"*

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A brilliant student and original thinker, Hilaire Belloc, in his **EUROPE AND THE FAITH** outlines the nature of the Roman Empire and of the Catholic Church within the empire before that civilization in its maturity accepted the Faith; lays before the reader the transformation and material decline which has erroneously been called "The Fall" of the Roman Empire; presents a picture of what society must have seemed to an onlooker just after the crisis of that transformation from Pagan to Christian times and proves how the acceptance of the Faith preserved the Roman Empire when in the fourth and fifth centuries it was in peril of full decay. He then carries one from the Dark Ages to the Middle Ages through the supreme test and temptation of the fifteenth century showing Ireland alone of those nations which the Roman Empire had not bred, preserving through the Reformation, the continuity of Christian tradition. His conclusion is a startling one.

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