

POSITIVISM: THE FATHER OF NATURALISM

by Clement Butel

Introduction: Some Christians, concerned about the loss of religious faith and the permissiveness that have taken hold in Western Society today, have recognized that in all probability the basic cause is the role played by the atheistic notion of naturalism, which claims that nature is all there is, was, or ever will be. Professor of Law Phillip E. Johnson, author of *Darwin on Trial*. [1] has written a book, 239 pages in length, which shows how naturalism is the presumption in science, law and education today, [2] and a further book pointing out how Christians should recognize the flaws in the naturalistic arguments and open up the minds of those who blindly accept those arguments. [3]

For a number of years now students in almost all schools and universities have been dogmatically taught that a naturalistic explanation of our origins is the only one that is scientifically acceptable, with the consequences that real Christians have been diminishing in number in our society and the Christian ethic has been supplanted by a secular humanist one.

But there is also another notion, to which Christians who oppose naturalism have not paid as much attention, even though it is just as atheistic as naturalism and has paved the way for the latter's acceptance. This notion is known as positivism.

It gets its name from a book published in France in 1830 under the title of *Cours de Philosophie Positive*. Its author, August Comte (1798 -1857), claimed that there were three stages in human thought. The first was the theological stage, when men looked for supernatural causes and so invented gods and devils. The second was the metaphysical stage, when men sought to explain their origins in terms of metaphysical or philosophical abstractions. The last and final stage, according to Comte, is the scientific stage, when men by way of scientific observation and experimentation will reach the positive truth.

This notion, when applied to origins as it was meant to be, was never anything more than a fallacy for the obvious reasons that (a) the past cannot be observed and (b) any theory concerning unique historical events that, *ipso facto*, are unrepeatable cannot be experimentally tested. Nevertheless, positivism came to be widely accepted in the scientific community. [4] The logical consequences of its acceptance are that it is now dogmatically, but falsely, claimed that, since theology and metaphysics must be excluded, only science can give us any positive knowledge of the past, and only natural causes can be taken into account.

Thus, positivism is the father-thought of naturalism. The product of these two notions is, of course, the evolution world-view. Atheists are quite prepared to live with these fallacies, because to them supernatural creation is unthinkable. But what of theistic evolutionists? How can non-evolutionist Christians convince them that their theistic evolutionist beliefs are based upon fallacies?

In using the language of genuine science (observation and experimentation) and applying it to circumstances where it had no application, Comte muddied the clear Baconian waters that had for 200 years demarked genuine natural science from other pursuits. In this article it is argued that once again the true distinction between natural science and non-science must be emphasized. It should be proclaimed loud and clear that the field of investigation of true natural science is

limited and that (contrary to positivism) all origin theories are outside of its ambit, because they are all untestable, or contain vital assumptions that are untestable. They are philosophical in nature and are based upon one of the two opposing underlying philosophical assumptions: (a) supernatural causes or (b) natural causes only.

The first assumption, usually known as natural theology, asserts that the evidence of nature reveals designs of natural things of such complexity and grandeur that nature must be the work of a supernatural designer/creator. The second, known as materialism, claims that only material things exist and, therefore, only natural causes can be taken into account.

Christians who oppose the evolution world-view are well aware of the fact that supernatural creation is not a testable scientific theory. However, they claim that the facts of nature, which show overwhelming evidence of intelligent design, affirm the supernatural character of the origin of life as divinely revealed in the Old Testament. The authenticity of their position is supported by Dietrich von Hildebrand, arguably one of the greatest Catholic philosophers of the twentieth century. In "Teilhard de Chardin: A False Prophet" (an appendix to his book, *Trojan Horse in the City of God*) [5] he wrote: "For one thing, every careful thinker knows that a reconciliation of science and the Christian faith has never been needed, because true science (in contradistinction to false philosophies disguised in scientific garments) can never be incompatible with the Christian faith."

Furthermore, the evidence for intelligent design destroys the philosophical position taken by secular evolutionists. This position is honestly described by a leading evolutionist, the geneticist, (Professor) Richard Lewontin (his emphasis), as follows: "We take the side of science in spite of the absurdity of some of its constructs, in spite of its failure to fulfill many of its extravagant promises of health and life, in spite of the tolerance of the scientific community for unsubstantiated just-so stories, because we have a commitment to materialism. It is not that the methods and institutions of science somehow compel us to accept a material explanation of the phenomenal world, but, on the contrary, we are forced by our a priori adherence to material causes to create an apparatus of investigation and a set of concepts that produce material explanations, no matter how counter-intuitive, no matter how mystifying to the uninitiated. Moreover, that materialism is an absolute, for we cannot allow a divine foot in the door." [6]

The true scope of natural science. The true scope of natural science is the observation of presently existing phenomena, dealing with phenomena that are known by their effects, such as electricity, and carrying out experiments to test theories concerning observations that are repeatable. It is not within its scope to investigate once-and-for-all events, like creation. However, because of their present existence and repeatability, it can investigate, by observation and experiment, those secondary causes, or natural laws, created by God to uphold His creation and ensure the continuity of created things.

Sir Francis Bacon (1561-1626), philosopher, lawyer, and statesman, first proposed the scientific method as a means for distinguishing genuine scientific theories from non-science. According to a modern textbook, [7] the scientific method is applied as follows: 1) define the problem; 2) collect information on the problem; 3) form a hypothesis; 4) experiment to test the hypothesis; 5) reach a conclusion.

Renowned philosopher of science Karl Popper, (born 1902 and now deceased) reminded the world that genuine scientific theories are ones that can be scientifically tested. In his major work, *Die Logik der Forschung*, published in 1934, [8] Popper stressed the importance of falsifiability as being a criterion for determining testability. If a theory could not be subjected to a falsification test, it was only pseudoscience. He singled out Marxism and psychoanalysis as examples of pseudoscience.

WHY EVOLUTION IS PSEUDOSCIENCE

Two professors of biology made the following comment in 1967 concerning Popper's philosophy, as applied to the theory of evolution : "Our theory of evolution has become, as Popper described, one which cannot be refuted by any possible observations. Every conceivable observation can be fitted into it. It is thus outside of 'empirical science' but not necessarily false. No one can think of ways to test it. Ideas, either without basis or based upon a few laboratory experiments carried out in extremely simplified systems, have attained currency far beyond their validity. They have become part of an evolutionary dogma accepted by most of us as part of our training." [9]

Although philosophically attracted to Darwinism, Popper (obviously following his own arguments) admitted in his autobiography, which was first published in 1974 (his emphasis), that "I have come to the conclusion that Darwinism is not a testable scientific theory, but a metaphysical research programme - a possible framework for testable scientific theories." [10]

Referring to Popper's statements and to the fact that it is only possible to test an hypothesis where there are repeatable observations, Dr. Colin Patterson, a leading paleontologist at the British Museum of Natural History, wrote in 1978: "If we accept Popper's distinction between science and non-science we must ask ourselves whether the theory of evolution by natural selection is scientific or metaphysical (pseudoscience). Taking the first part of the theory, that evolution has occurred, it says that the history of life is a single process of species splitting and progression. This process must be unique and unrepeatable, like the history of England. This part of the theory is, therefore, a historical theory about unique events, and unique events are, by definition , not part of science, for they are unrepeatable and so not subject to test." [11]

Neither Popper nor any of the scientists mentioned above could be accused by evolutionists as having any bias in favour of supernatural creation. But perhaps even more to the point is an admission by one of the world's leading proponents of organic evolution that the hypothesis is untestable. S.J. Gould admitted in 1986 that evolution relies heavily upon inference and not on "steel balls rolling down inclined planes in a laboratory." [12] Nevertheless, he criticized creation scientists who claimed that evolution was not part of empirical science.

In 1992, when Gould was teaching biology, geology, and the history of science at Harvard University in the United States, he wrote a hypercritical (and most unfair) review of Professor Phillip E. Johnson's book, *Darwin on Trial*. [13] In that review Gould claimed that Johnson held "a narrow and blinkered view of science," because Johnson had claimed that Darwin had "started his theory on the wrong road" by never proposing an experimental test for it. [14]

Gould, however, admitted that "... Darwin's method is not generally experimental, for singular and complex events are not so explained by any historical science." In trying to support his claim that evolution was, nevertheless,

science and not metaphysics (in this context, pseudoscience), Gould argued that Darwin's methodology brought his theory within the ambit of natural science. He claimed that Darwin "used Whewell's 'consilience of induction' or bringing widely disparate information under an uniquely consistent explanation." [15]

What Darwin actually did was to search for circumstantial evidence, from which he attempted to draw inferences in favour of his hypothesis. No small part of the "evidence" (for example, the "horse series" and "vestigial organs") can now be shown to have been misconceptions, while his prediction that transitional forms would be found when the fossil record was more fully explored has been refuted.

In his book, *Evolution: A Theory in Crisis*, Dr. Michael Denton, a (non-creationist) molecular biologist, after a critical examination of all of Darwin's arguments, stated that the two fundamental axioms upon which Darwin based his theory were false. One proposed an erroneous continuity in nature (a mistaken belief of a continuum of life forms linking all species and leading back to a primeval life form). The other was an irrational belief that all adaptive design in nature was the result of random processes, i.e., blind chance. Denton went on to point out that "Neither axiom has been validated by one single empirical discovery or scientific advance since 1859". And, in relation to the numerous objections raised against the evolution theory by its early opponents, such as the biologists Agassiz, Pictet, Bronn and Richard Owen, Denton stated: "Nor has a single one of the innumerable objections been met. The mind must still fill up the "large blanks" that Darwin acknowledged in his letter to Asa Gray." [16]

In his concluding summary Denton stated: "One might have expected that a theory of such cardinal importance, a theory that literally changed the world, would have been something more than metaphysics, something more than a myth. Ultimately the Darwinian theory of evolution is no more no less than the great cosmogenic myth of the twentieth century." [17]

Surely Christians who do not oppose evolution can see the difference in approach between Denton and Gould. Denton, although an agnostic, is not wedded to positivistic/naturalistic preconditions and, therefore, his objectivity cannot be brought into question. On the other hand, Gould, as an atheist and materialist who is wedded to those preconditions, rejects out of hand any opposition to the (alleged) scientific status of evolution, and to this extent his objectivity suffers badly.

Quite clearly the theory of evolution is not part of natural science but is only a research programme aimed at supporting the fallacies of positivism and naturalism (and, consequently, atheistic materialism as a universal philosophy). Christians who continue to hold that evolution is a scientific fact or even a testable scientific theory are, therefore, naive indeed.

There has always been obvious evidence of intelligent design (cf. the natural theology of St. Paul in Romans 1:19-20). Today there are scientific observations which show that some, if not all, life forms must have been created as wholly functioning living systems and, therefore, they could not have evolved from simpler systems. [18] Consequently, all evolutionists - including those Christians who continue to hold to the idea of theistic evolution and thereby help to thwart criticism of the materialistic philosophy - have even less excuse than previously.

Some theistic evolutionists might claim that this criticism is unwarranted and unfair on the ground that evolution is supported by historical geology. This discipline (they will claim), while having failed to locate any fossils that can be

demonstrated to be truly transitional, has, nevertheless, shown from the fossil record that there is an order whereby organisms have made their appearance on earth and this order approximates the theoretical order of evolved types and species.

But does this order really exist? According to evolutionist/paleontologist Dr. David Raup, not so! In the fields of geology and paleontology, Dr. Raup should have known what he was talking about, because, apart from the academic positions he has held at the University of Chicago, he was, at the relevant time, the Curator of the Chicago Field Museum of Natural History, which has one of the largest collections of fossils in the world.

Phillip Johnson, in his book *Darwin on Trial*, [19] cites a letter from Raup published in "Science" in 1981 (vol. 213, p. 289), in which Raup stated: "A large number of well-trained scientists outside of evolutionary biology and paleontology have unfortunately gotten the idea that the fossil record is far more Darwinian than it is. This comes from the oversimplification in secondary sources: low-level textbooks, semi-popular articles, and so on. Also there is some wishful thinking involved. In the years after Darwin, his advocates hoped to find predictable progressions. In general these have not been found - yet optimism dies hard and pure fantasy has crept into textbooks. ... One of the ironies of the evolution-creation debate is that creationists have accepted the mistaken notion that the fossil record shows a detailed and ordered progression and they have gone to great lengths to accommodate this 'fact' in their Flood geology." This raises the question of whether historical geology is science or pseudoscience.

HISTORICAL GEOLOGY: SCIENCE OR PSEUDOSCIENCE?

Historical geology, as most textbooks show, is based upon the theory of uniformity, which asserts that present processes in the formation of strata have always operated in the past. It also claims that there are two main laws or principles that are relevant to the determination of geological time. They are known as (a) the law or principle of faunal succession and (b) the law or principle of superposition.

The Theory of Uniformity. No evidence has ever been adduced that uniform conditions on earth have always prevailed. Uniformity was merely an assertion made by James Hutton in 1797, which was later adopted by Charles Lyell in 1830 in his *Principles of Geology*. [20] Lyell was not an atheist, but he did not accept biblical history. In April 1829 he spoke of driving certain men out of the Mosaic record. [21] He had no evidence to support the doctrine of uniformity and even admitted that there were "violations of continuity ... so common as to constitute in most regions the rule rather than the exception." [22] But he argued that this appearance, which seemed to many as being indicative of great catastrophies, was due to the fact that there were many links in the chronological chain that were missing. To give illustration to this argument he took examples from human living. For example, he said that, if a census were taken every year in sixty provinces, changes in population would seem gradual. However, if it were only taken in a different province every year, the sixty-year interval between the census taking in individual provinces would reveal changes that would appear to be very great. [23] Thus, Lyell's argument of gradual changes, which were not apparent to the observer because of (alleged) missing time spans, was an argument from silence. It was on these grounds that Lyell dogmatically rejected "the assumption of sudden and violent catastrophies and revolutions of the whole earth - and its inhabitants" [24] and subsequently succeeded in ousting the prevailing flood geology. [25]

Even S.J. Gould has criticized Lyell for duplicity. Gould at the relevant time was an advocate of the evolution theory of punctuated equilibrium, which does not require that the fossil record should show the very slow and gradual evolutionary changes required by Darwin's gradualism. Gould wrote that Lyell "imposed his imagination upon the evidence" and "pulled a consummate fast one," when he tried to slip in a substantive claim (which had not been proven) with a methodological statement that must be accepted by any scientist, uniformitarian or catastrophist. [26]

Theistic evolutionists should surely be able to see from these facts that the theory of uniformity is not based upon any scientific observations, nor is it a testable scientific theory, but at its optimum it is no more than pseudoscience.

Faunal Succession. Uniformitarians claim that fossils of fauna appear in rocks in a definite and discernible chronological order and, therefore, older rocks will contain fossils of more primitive organisms than younger rocks.

In a textbook, *Growth of a Prehistoric Time Scale*, Professor W.B.N. Berry, when Professor of Paleontology and Vice Chairman of the Department of Paleontology at the University of California, Berkeley, wrote of Darwin's contribution to the growth of the time scale and showed the importance he attached to that contribution by giving his book the sub-title, *Based on Organic Evolution*. [27] Thus, according to this authority, faunal succession is nothing more than Darwinian evolution.

It is notorious that rocks are dated by uniformitarian geologists to accord with the evolutionary age of the fossils found in them and that the age of fossils found in rocks is determined by them according to the alleged age of the rocks in which they are found. Thus, faunal succession, as supposedly evidenced by the rocks, depends, amongst other things, upon circular reasoning. This is recognized by a number of evolutionist writers. [28]

Even in spite of the advantage gained from the favourable use of circular reasoning, the fossil record does not, according to leading evolutionist paleontologist Dr. David Raup (see above), reveal the progressive order of fossils required by Darwin's theory.

Thus, faunal succession is based, in the first place, upon the untestable hypothesis of organic evolution and, in the second, upon the supposition that the fossil record, contrary to the facts, shows an evolutionary progression of fossils. It, therefore, cannot be held to be a true geological law or principle.

Superposition. At page 23 of his book (see above) Professor Berry stated: "At the foundation of the understanding of the proper sequential order of rocks and the fossils contained in them lies the principle of superposition . That many rocks are layered and that such rocks commonly bore fossils, were observations made by scores of naturalists from the beginning of man's investigation of the natural phenomena about him. Some rocks were tilted only a little. They could be seen to lie one on top of the other. Other sets were contorted. Their sequential order was more difficult to establish."

At page 24, Professor Berry went on to describe how Nicolaus Steno (in about 1655), from observations of rocks in Northern Italy, had been led to induce the principle of superposition, which, in effect, was that each layer of rock was formed upon the nearly horizontal rock base beneath it. Each lower layer, therefore, must be older than the layer above it. Tilted and deformed strata

(nearly horizontal at the time of deposition) must have been displaced by volcanic eruption or by a withdrawal of the substance beneath the rocks, which caused a caving in. "From Steno's almost self-evident principle," Professor Berry wrote, "geologists could work out local successions of strata with confidence that the lowest were the oldest. Through time, a set of criteria was established by which tops and bottoms of beds could be ascertained in badly deformed and strongly tilted strata. Geological structures could then be established and proper superpositional order demonstrated in any area." [29] From this superpositional theory of how strata have been laid down, a chronology of geological ages was devised by uniformitarian geologists. The supposition that rock layers were laid down successively and, therefore, in a sequential order was never observed by Steno, nor did he carry out any experiments to show that this was the case. After all, Steno was an anatomist of some repute with only a passing interest in rock formations. Neither have any experiments been carried out by uniformitarians to test their theory of superposition. Uniformitarian textbooks, therefore, contain the gratuitous assumption that no rocks were ever laid down by great catastrophies and dogmatically accept the untested theory that today's processes (which they maintain applied in the past) show that strata are laid down in horizontal layers, one on top of the other.

This theory (as to what are today's processes) has, however, been tested by Guy Berthault, a French experimenter in sedimentology. He first conducted personal experiments on microstrata. The results of these experiments were published by the French Academy of Sciences. Subsequently he directed experiments on stratification at the University of Colorado in the United States. The report on these latter experiments was published in the Journal of the Geological Society of France in 1993.

The experiments reveal that the sediments washed into the oceans are sorted out by water currents into strata of different-sized particles. The strata do not form successively one on top of the other but sideways upstream to downstream. Where the water current varies, a series of strata can form simultaneously. In these conditions it is not possible to ascertain whether the higher strata are younger than the lower ones, nor whether fossils found in different strata, or in different parts of the same strata, are of the same age. These results leave the fossil record without a chronology and the evolution theory without support from geology and paleontology. A visual explanation of the experiments is contained in an updated version of the video, *Evolution: Fact or Belief?* [30].

Having regard to the pseudoscientific nature of uniformity and faunal succession, and the experimentally disproven principle of superposition, it can be seen that the supposed historical geology that appears in uniformitarian textbooks provides no real support for the theory of organic evolution, which is the central theory of the evolution worldview.

All other theories that support this world-view, the Big Bang, long age dating etc., when properly investigated, can also be seen to have feet of clay. They contain untestable assumptions and will never be anything more than pseudoscience.

Conclusion: If Christianity is to survive as a world wide influence, then positivism and its child, naturalism, must be exposed for the scientific and philosophical frauds that they are.

(First published by the Roman Theological Forum as "Living Tradition" No.79)

ENDNOTES

1. Phillip E. Johnson, *Darwin on Trial* (Downers Grove, IL 60515, U.S.A.: Intervarsity Press, 1991). In this book the author looks at the evidence for and against evolution from the point of view of an academic lawyer and finds a lack of probative evidence for the evolution case.
2. Phillip E. Johnson, *Reason in the Balance: The Case Against Naturalism in Science, Law and Education* (Intervarsity Press, 1995).
3. Phillip E. Johnson, *Defeating Darwinism by Opening Minds* (Intervarsity Press: 1997).
4. In a biography of Nobel Prize winner Marie Curie (1867-1934), written by her daughter, there is a photograph of Marie and an older sister (ages between 15 and 18 years). The title given to the photograph is "Two Little Positivists." Marie belonged to a Polish Catholic family, but, some time after the premature death of her mother and eldest sister, the family, influenced by their father, gave up their faith. The father was a science teacher who was attracted to Darwinism. Marie later married the son of a militant atheist and, so far as it is known, never returned to her Christian faith.

Another Nobel Prize winner, Alexis Carrel (1873-1944), in a small book that was published posthumously, wrote about himself that "absorbed in scientific studies, his mind had been strongly attracted to the German system of critical analysis and he had slowly become convinced that outside of the positive method no certainties existed" (*The Voyage to Lourdes*, republished by Real-View Books: Frazer, Michigan, 48026, U.S.A. - page 56). Carrel, who was a famous surgeon, made a train journey from Paris to Lourdes in 1902, when he assisted in caring for some of the very ill passengers. One of these passengers, a young woman named Marie Bailly, was suffering from tubercular peritonitis and was near death's door. Although Carrel witnessed the sudden cure of this young woman at Lourdes, which could only be described as miraculous, and later another such cure, it took some years for him to rid himself of his positivistic outlook. Despite the fact that he eventually returned to his Catholic faith, he was careful not to reveal his conversion to fellow positivists and even adopted pseudonyms in his book for himself, Marie Bailly, and some others he encountered at Lourdes.

The "logical positivists" known as the "Vienna Circle," which existed in Austria in the twenties, thirties and in the pre-Nazi forties, were positivists who claimed that most of metaphysics (and consequently ethics and religious discourse) was literally meaningless, since its propositions could not be verified either by observation or experiment, or by logical deduction. They thus followed the same fallacious reasoning as Comte. Popper claimed responsibility for their demise, when he introduced his method for distinguishing science from non-science. Apart from this, their "logical deduction" offended the rules of logic.

In 1984 the National Academy of Sciences of the United States produced a statement which was a polemic against creationism. In it they claimed that natural explanation was a most basic characteristic of science. While this is true enough of genuine natural science, it is not an argument in favour of positivistic hypotheses like evolution, which they were falsely claiming to be part of genuine natural science.

5. Dietrich von Hildebrand, *Trojan Horse in the City of God* (Chicago: Franciscan Herald Press, 1967), p. 228.

6. Richard Lewontin, "Billions and Billions of Demons," in *The New York Review* (9 January 1997), p. 31.
7. See Bigs et al, *Biology - The Dynamics of Life* (Columbus, Ohio: Merrill Publishing Co., 1991).
8. K.Popper, *The Logic of Scientific Discovery* (published in Austria in 1934).
9. *Nature* (vol. 214: 22 April 1967), p. 352.
10. K.Popper, *Unended Quest* (La Sale and London: Open Court Publishing Company, 1982 edition).
11. Colin Patterson, *British Museum of Natural History* (1978), pp. 145-146.
12. Reported by Christopher Joyce in "Genesis Goes On Trial" (republished in *Weekend Australian*: 27/28 December 1986).
13. See endnote 1 above.
14. S.J. Gould, "Impeaching a Self-Appointed Judge," in *Scientific American* (July 1992), p. 194.
15. Gould, *ibid.*
16. Michael Denton, *Evolution: A Theory in Crisis* (London, U.K.: Burnett Books, 1985) p. 345 (also published by Adler and Adler: Bethesda, Maryland, U.S.A.).
17. Denton, *ibid.*, p. 358.
18. A most important study concerning this issue was made by Michael. J Behe, Associate Professor of Biochemistry at Lehigh University in the United States. At the conclusion of his book, *Darwin's Black Box: The Biochemical Challenge to Evolution* (New York: The Free Press, a division of Simon and Schuster, Inc., 1996), Professor Behe points out: "The simplicity that was once expected to be the foundation of life has proven to be a phantom; instead systems of horrendous, irreducible complexity inhabit the cell. The resulting realization that life was designed by an intelligence is a shock to us in the twentieth century who have gotten used to thinking of life as the result of simple natural laws."
19. Johnson, *Darwin on Trial* (endnote 1 above), p. 170.
20. Charles Lyell, *Principles of Geology* (1830-1833), vols. 1-3.
21. *Life, Letters, and Journals of Sir Charles Lyell* (London: John Murray, 1881 - written by Lyell's sister-in-law, a Mrs. Lyell), vol. 1, p. 253.
22. Mrs. Lyell, *op. cit.* (12th edition), p. 298.
23. Mrs. Lyell, *ibid.*
24. Mrs. Lyell, *op. cit.*, p. 319.

25. Abandonment of flood geology was gradual until 1859 but accelerated after Darwin had published his theory. While there are now neo-catastrophists amongst evolutionist geologists, they do not recognize the Genesis flood as an historical event.

26. S.J. Gould, "Catastrophies and Steady State Earth," in *Natural History* (February 1975).

27. W.B.N. Berry, *Growth of a Prehistoric Time Scale: Based on Organic Evolution* (San Francisco, U.S.A., and Folkestone, Kent, England: W.H. Freeman and Co., 1968).

28. For example, evolutionist/paleontologist Niles Eldredge stated in *Time Frames* (New York: Simon and Schuster, 1985), p. 52: "And this poses something of a problem. If we date rocks by their fossils, how can we then turn around and talk about patterns of evolutionary change through time in the fossil record?" See also Tom Kemp, curator of the university museum at Oxford University, in "A Fresh Look at the Fossil Record," in *New Scientist* (5 December 1985), vol. 108, no. 1485; and R.H. Rastall of Cambridge University in the *Encyclopaedia Britannica*, vol. 10 (1956), p. 168.

29. See Berry, *op. cit.*, page 25.

30. Readers can obtain the name of its local distributor from Peter Wilders, webpage: <http://www1.newsource.net/efob/>.