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Did the Devil Make Darwin Do It? Historical Perspectives on the Creation-Evolution Controversy

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The 19th century witnessed a conceptual revolution of the 1st magnitude, not only in biology but also in geology, theology, philosophy, Biblical studies, and physics. This paper sketches these intellectual developments in Britain as they shaped and were shaped by the ideas of Charles Darwin. From this perspective, the paper comments on aspects of the current creation-evolution controversy, including the creationist suggestion that scientists accepted the theory of evolution because Satan persuaded them to do so.

INDEX DESCRIPTORS: Evolution, scientific creation, Charles Darwin, Britain

If the creation-evolution controversy were confined to biology, others of us could rest more easily. Unfortunately, the controversy touches on a number of fields including my own areas of interest, the history and philosophy of science. For example, a principal spokesman for scientific creationism has attempted an explanation of the widespread acceptance of evolution by suggesting that

Satan himself is the originator of the concept of evolution. In fact, the Bible does say that he is the one "which deceiveth the whole world" (Revelation 12:9) and that he "hath blinded the minds of them which believe not" (II Corinthians 4:4). Such statements as these must apply especially to the evolutionary cosmology, which indeed is the world-view with which the whole world has been deceived.¹

Having, in effect, been included in the controversy by this and other statements, I consider it worthwhile to comment on the controversy from the perspective of my own discipline. And I want to do so in this essay by looking at Darwin's own context—19th-century Britain.

The 19th century witnessed a conceptual revolution of the 1st magnitude.² It involved theology, biology, philosophy, geology, Biblical studies, and physics. Not all the participants in the revolution were British, of course, but Britain provides a convenient and natural focal point for our attention. After all, 19th-century Britain was the home of the geologists William Buckland and Charles Lyell, the physicist Lord Kelvin, the philosopher John Stuart Mill, and the biologist-philosopher T. H. Huxley, as well as Darwin himself. Though these men by no means agreed with each other on all points, their combined efforts figured prominently in transforming ideas on a number of issues. While the views of most early 19th-century British scientists approximated to those of modern creationists, the views of their late-century counterparts were close to those of modern evolutionists.

This essay contains two parts. The first part attempts to portray 19th-century thought as accurately as brevity and modern scholarship will allow. The second offers reflections on current debates—reflections suggested by the 19th-century conceptual revolution.

Consider the state of knowledge during the first decade or so of the 19th century. Detailed exploration of the fossil record had only been underway for a short time, and findings were ambiguous enough that two major French naturalists—Cuvier and Lamarck—could disagree sharply on the nature of the fossil evidence. Cuvier had only in very recent years established the reality of extinction. As the pre-eminent European naturalist of the period, he maintained that the intricate organization of animal bodies precluded biological *transmutation*. Any significant deviation from the original organism would destroy the organization, resulting not in transmutation but death. Cuvier further thought that a series of localized

"revolutions" or catastrophes must have been linked to the extinctions which he had recently demonstrated, for the animals involved were mobile enough to have migrated away from an area where gradual changes were occurring. British naturalists listened to Cuvier, not Lamarck whose theory of biological transmutation seemed ill supported by the evidence.³ In philosophy and theology, Britons listened to their countryman, William Paley, whose recently published book, *Natural Theology*, opened with a story of a man walking across a heath and coming upon a watch. Just as inspection of the watch disclosed a design that could only have been produced by an intelligent being, so also close study of the universe—especially of the earth's animal life—showed it to be the product of a designing intelligence. "The works of *design* are too strong to be gotten over. Design must have had a designer. That designer must have been a person. That person is GOD."⁴ Thus Paley encapsulated the familiar "argument from design," capturing much of British thought for decades to come. Moreover, there was little reason for early-century Britons to doubt that Genesis was a more-or-less accurate account of the history of the world. Although some 18th-century writers had railed against Scripture, still the weight of opinion viewed Genesis as an historical document revealed by God to man. Though a few 18th-century scientists had thought the earth was very old, British geological thinking around 1800 tended to agree with the Biblical view of a young earth. The world, therefore, was evidently only a few thousand years old, and the flood survived by Noah was the major geological event in the world's history.⁵ God had created man and living things in the early days, and if Cuvier had shown a few animals to have become extinct, the vast majority had survived intact.

We should note that this was a coherent view of the world, past and present. There may have been a few discrepancies here and there, but there usually are in major syntheses. It was a view in accord with large quantities of empirical data, a view demanded by the most compelling of current philosophical-theological arguments. It was definitely not a view imposed on unwilling scientists by church pressure. Also, it did not retard empirical studies of nature. This was exactly the period, for example, of the foundation of the Geological Society of London, whose members were determined to organize a nationwide collection of geological data.⁶ However, as they are usually wont to do, things changed.

First of all, geologists amassed enormous amounts of geological information concerning geological strata and their fossil contents. By around 1830, such information—coupled with the conclusion from physics that the earth is a continually cooling object—had led geologists to recognize progressive changes in the history of the earth and its life. The deepest—and therefore oldest—rocks seemed solidified from an initial, molten state. Most later strata seemed to have been slowly formed by deposition of silt from bodies of water. Earliest life recorded in the fossil record was tropical plants, being

followed by animals of increasing complexity and by plants and animals suited to moderate temperatures. The stratigraphic record indicated to most geologists that the fauna, flora, and temperature of the earth had changed considerably since its initial formation.⁷

Such matters impinged on the thought of the two major British geologists of the 1820s and 1830s, the catastrophist William Buckland and his uniformitarian student Charles Lyell. For Buckland, geological strata recorded perhaps "millions of millions of years" of earth's history which occurred *before* the events recounted in Genesis.⁸ During this period, there were a number of life-destroying catastrophes followed by life-forming Divine creations, with successive creations including progressively more advanced organisms. Lyell's uniformitarian geology envisioned small-scale forces operating over even vaster periods of time than Buckland's millions of years. Lyell thought the fossil record showed that species of animals, instead of dying off and being created *en masse* at only specific times, were continually dying and being created. Moreover, the highly localized geographical distribution of most animals indicated to Lyell that they had been "created" in that locality, either directly by God or by some natural cause as yet unknown.⁹

As views like Lyell's gained acceptance, the problem of the origin of species became an important research problem that an ambitious young naturalist—like Charles Darwin—could pay some attention to.¹⁰ Thus, when Darwin returned to England from the voyage of the *Beagle* in 1836, convinced that evolution had taken place, and when he came up with his idea of natural selection a couple of years later, he was trying to answer the scientific question which was being called "the mystery of mysteries."¹¹ But Darwin did not publish his book on the subject until 1859; and by then others were publishing related ideas, which joined with Darwin's in the conceptual revolution.

In 1860, for example, seven Anglican clergymen published an influential book entitled *Essays and Reviews*. Making use of recent Biblical scholarship, they presented Genesis not as God's absolutely true word on science and history, but as a largely human document reflecting ancient understandings. One of the seven wrote that Genesis would retain its proper "dignity and value" only "if we regard it as the speculation of some Hebrew Descartes or Newton, promulgated in all good faith as the best and most probable account that could be then given of God's universe."¹² He looked to the example of Galileo for guidance and advocated Galileo's own solution to the issue of reason and revelation—"that the object of a revelation or divine unveiling of mysteries, must be to teach man things which he is unable and must ever remain unable to find out for himself; but not physical truths, for the discovery of which he has faculties specially provided by his Creator."¹³

More critical was the empiricist philosopher John Stuart Mill. Though Mill wrote little about religion during his lifetime, his posthumously published *Three Essays on Religion* (1874) scrutinized contemporary Christian views. He thought the design argument provided the only possible indication of God's existence and attributes, but that it established the existence of a limited God, with matter probably existing independently from Him. However, the existence of such an imperfect God at least lent a certain plausibility to the imperfect Scriptures' being His word, and one could therefore "hope"—but no more—that the Bible might be God's revelation.¹⁴ Chiefly Mill emphasized the *usefulness*, rather than the truth, of Christianity, for it did provide a moral code and a moral man for people to emulate.

Unlike Mill and the authors of *Essays*, who paid little attention to evolution, the distinguished biologist T.H. Huxley was Darwin's loudest supporter. For Huxley, Darwinian evolution explained the intricate design in animals which had so amazed Paley, and even Mill. It was Huxley who invented the word "agnostic" to describe

his own position that neither the design argument nor any other argument could demonstrate the existence or non-existence of a god. Exceedingly critical of Biblical evidence, he was especially hard on Jesus' concept of evil demons as the cause of human ailments. When Jesus spoke of driving demons out of a man into a herd of swine, he revealed himself as a man of his times, not a divinity with perfect knowledge. Posing what he regarded as an insoluble dilemma for Christianity, Huxley declared that

*either Jesus said what he is reported to have said, or he did not. In the former case, it is inevitable that his authority on matters connected with the "unseen world" should be roughly shaken; in the latter, the blow falls upon the authority of the synoptic Gospels. If their report on a matter of such stupendous and far-reaching practical import as this is untrustworthy, how can we be sure of its trustworthiness in other cases?*¹⁵

What then was the late-century reaction to all these developments? Though they were not entirely separate from one another, we can speak of a scientific reaction and a religious reaction.

There were solid scientific objections to Darwin's theory.¹⁶ If Darwin's small, beneficial changes were few in number, would they not almost certainly be swamped out of existence as the "improved" offspring mated with ordinary animals? If parental characteristics blended to produce those of the offspring, it was difficult to see how they could ever add up. Moreover, Kelvin calculated how long it would take a molten earth to cool down to its present condition, and pronounced that the earth could only be between 20 million and 400 million years old. This was a much shorter time than Darwin thought was required, even without the problems posed by the blending of parental traits. Darwin's response to such concerns generally coincided with that of the late-Victorian scientific community. Though evolution remained the best available explanation of the fossil record and the geographical distribution of plants and animals, the cause and rate of evolutionary change were still puzzles. Faced with stiff criticism, Darwin supplemented natural selection with Lamarckian ideas of the inheritance of acquired characteristics in order to make evolution a speedier process. In similar fashion, British scientists accepted the reality of evolution fairly readily, but were still debating its causes when the century closed.

Religious reaction apparently took its cue largely from scientific considerations. While scientists argued, clergymen naturally looked askance at evolution. In his famous debate in 1860 with Huxley, for example, Bishop Wilberforce was coached by the eminent comparative anatomist, Richard Owen. Eventually, however, the various 19th-century developments seem to have divided those who remained Christians into two main groups—conservative opponents of evolution, and liberal supporters of a Divinely ordained, goal-directed evolution of plants, animals, man, and human society.¹⁷

The final decade of the 19th century, therefore, differed enormously from the first. Biological consensus embraced evolution, though biologists would have liked to have had a more definitive understanding of its causes. Under the persuasion of Mill, Darwin, Huxley, and Biblical scholars, traditional Christianity had largely yielded to liberalism and agnosticism. Christians no longer appealed to Paley's design argument quite so frequently or confidently as they once had. Indeed, most dramatically of all, unlike their early-century counterparts, late-Victorian intellectuals regarded science and religion as rather separate entities.¹⁸

Reflecting on the history of 19th-century British thought, we can try to give at least partial answers to several questions concerning the current creation-evolution controversy.

First, what shall we say about the creationists' point that hundreds of scientists today support creationism?¹⁹ Does this not indicate that

the 1980s are like the 1860s in Britain, when leading biologists and geologists differed over the reality and extent of biological evolution? Must there not have been some recent *scientific* development that has re-opened the whole question? The clear answer here is "no." In fact, the 1980s are much more like the 1890s than the 1860s. Leading biologists and geologists seem still unanimously agreed on the reality of evolution and still vigorously discuss exactly how it took place. Creationists constitute only a tiny group compared to the total number of American scientists, and their ranks include no leading biologists or geologists. Moreover, creationists' official commitment to the scientific accuracy of Genesis²⁰ suggests that the wellspring of their views has, in reality, very little to do with scientific developments, recent or otherwise.

Second, do evolutionists, as creationists charge, think the earth is extremely old only because it allows them to believe in evolution?²¹ As we have seen, as early as the 1820s, accumulating geological evidence had convinced the catastrophist Buckland that the earth was much more than a few thousand years old. Moreover, it probably bears repeating that Lyell was not an evolutionist in the 1830s when he published his uniformitarian ideas. Kelvin's calculations, we should note, restricted the earth's age to several million years, not a few thousand. Indeed, the creationists' view that the earth is only a few thousand years old was abandoned decades before Darwin published his *Origin of Species*.

Third, does the theory of evolution, as creationists apparently fear and as some evolutionists evidently hope, disprove Christianity? There are many versions of Christianity, and the only correct, short answer to this question is "no." Moreover, the evolutionist should not imagine that all was religious darkness until an agnostic Darwin said, "Let there be light." Darwin, who considered himself to be a theist in 1859,²² depended upon a sophisticated context of biological-geological science, developed mostly by Christian scientists. For his part, the creationist should not imagine that people gave up traditional Christianity only because of the theory of evolution. Many late-Victorian intellectuals appear to have greatly modified or rejected Christianity not because of evolution, but because of what they regarded as implausibilities or absurdities within Christian doctrine itself.²³ Hence, it would seem that anyone who wanted to re-establish the world view as it existed around 1800 would find evolution to be only one, and probably not the greatest, problem.

Fourth, going along with the philosophical tone of some of this paper, we might look at that troublesome question: "Evolution—fact or theory?" Much of the confusion arises, I think, from the existence of at least two meanings for "fact" and "theory"—a common meaning and a more precise philosophical or scientific meaning. If a scientist refers to evolution as a fact, it seems to me that he is using "fact" with its common, not its precise, meaning. On the other hand, the scientist is correct to insist that "theory" (as in "theory of evolution") be given its precise, not its common meaning. Creationists often say, for example—even though it contradicts their claim to be *scientific* creationists—that neither creationism nor evolution can be science because they deal with events which occurred when no one was present to observe them. And, if the events are not directly observable, the creationist claims, they cannot be discussed scientifically.²⁴ However, by making inferences based upon their direct observations, scientists in many disciplines regularly reach responsible conclusions about past events no longer observable. By calling such conclusions theories, scientists are emphasizing their confidence in the theories' explanatory power. They are not using "theory" to mean—as is often done in common parlance—a highly uncertain guess. Indeed, far-reaching theories like the theory of relativity, the theory of gravitation, and the theory of evolution represent the pinnacle of the scientific enterprise and provide our highest scientific understanding of the natural world.

Finally, we can turn to the question serving as the title of this essay. Did the Devil make Darwin do it? Was Satan responsible for the origin of this perverse theory and its acceptance by the scientific community?

Part of my answer is to emphasize the place of Darwin within the 19th-century context of human concerns. He did not suddenly appear, disassociated from his context, with an idea unconnected with current discussions. Rather, he dealt with research problems identified by his predecessors. Distinguished, Christian members of the early-Victorian scientific community had, in effect, invited answers to the question, "What were the natural causes of the origins of all the new species which have appeared during the earth's long history?" Darwin pursued the problem using ideas and methods derived from a host of his fellow men. He defended his conclusions against adversaries' cogent criticisms, and many loose remained at the time of his death in 1882. In short, Darwin's conceptual journey, both buffeted and supported by his contemporaries, shares much with those of other great intellects in other places and other times.

Of course, the normality of Darwin's career does not by itself disprove Satan's influence. It could still be that Darwin was deceived by the Devil, or that his whole age was so deceived, or even that most of mankind throughout history have been so deceived. However, one can easily imagine other, more optimistic explanations. For example, citing Biblical passages which indicate that mankind was made in God's image (Genesis 1:27) and that "happy is the man that findeth wisdom, and the man that getteth understanding" (Proverbs 3:13), one might conclude that science involves God-like thinking and that God intends us to view the natural world through conclusions reached by scientists. Divine inspiration, not Satanic deception, would then be the guide of scientific research. This could mean that 19th-century thought allowed man for the first time to understand how God made him (i.e., by evolution) and also to attain an improved understanding of God and the Bible. One variation of this view would be that the Devil deceived mankind until 19th-century thinkers finally formulated a proper, evolutionary theory. According to this interpretation, the only ones still being deceived by the Devil would be creationists themselves. Another possible explanation is that 19th-century scientists were part of a *deterministic* process. According to this view, their "decisions" and "conclusions" were, in reality, simply predetermined, inevitable events in an inexorably unfolding sequence of events over which they had no control.

My object is not to decide which, if any, of these explanations is correct, but, instead, to illustrate the difference between them and historical discussions like that in the first part of this essay. History, like science, is too limited to incorporate such ultimate explanations as those involving gods or demons or determinism. Because many of these ultimate explanations can be made consistent with scientific or historical evidence, that evidence cannot be used to distinguish between competing explanations so as to decide which one is best. Hence, scientists do not include God in their explanations of natural phenomena, and historians do not include the Devil (or God or determinism) in their accounts of historical figures like Darwin. This distinction is neither arbitrary nor closed to questioning, but, for reasons like those indicated here, it currently seems the best way of approaching the problem of human knowledge in the realms of science and history. Thus, as an historian of science, I view Darwin and his contemporaries as handling difficult intellectual issues in human ways, being neither coerced nor cajoled, insofar as historical enquiry can decide, by god or demon.

To make such distinctions in such ways is to give expression to a modern, non-creationist viewpoint which, as we have seen, was largely shaped by Darwin and his contemporaries—philosophers, scientists, Biblical scholars. Essentially shaped by the end of the 19th

century, this view is now fairly widespread, and rightfully so. New discoveries or persuasive arguments can, and ought, to change it. Until then, however, it properly serves as the basis for scholarly and scientific research.

scientist of the early-Victorian period. See Walter F. Cannon, "The Problem of Miracles in the 1830s," *Victorian Studies*, 4 (1960), 22-23.

¹²C.W. Goodwin, "Mosaic Cosmogony," in *Essays and Reviews* (London, 1860), p. 252.

¹³*Ibid.*, p. 208.

¹⁴John Stuart Mill, *Three Essays on Religion* (New York, 1874), p. 240.

¹⁵T.H. Huxley, "Agnosticism" in his *Science and Christian Tradition* (London, 1894), pp. 218-219. The essay was first published in 1889.

¹⁶See Joe D. Burchfield, "Darwin and the Dilemma of Geological Time," *Isis*, 65 (1974), 301-321; Loren Eiseley, *Darwin's Century: Evolution and the Men Who Discovered It* (Garden City, 1958); and Peter J. Vorzimmer, *Charles Darwin, The Years of Controversy: The "Origin of Species" and Its Critics, 1859-82* (London, 1970).

¹⁷See James R. Moore, *The Post-Darwinian Controversies: A Study of the Protestant Struggle to Come to Terms with Darwin in Great Britain and America, 1870-1900* (Cambridge, 1979) and my review of it, "Darwin and the Protestants," *The British Journal for the History of Science*, 14 (1981), 200-202.

¹⁸See Owen Chadwick, *The Victorian Church*, 2 vols. (New York, 1966, 1970), vol. II, pp. 23-35.

¹⁹The *Creation Research Society Quarterly* reports that the Society currently has over 600 voting members, that is members who have at least a master's degree in "some recognized area of science." See also Henry M. Morris, *The Remarkable Birth of Planet Earth* (Minneapolis, 1972), p. iv and Henry M. Morris, *The Scientific Case for Creation* (San Diego, 1977), p. 1. In the latter book, Morris says there are "thousands of scientists who no longer believe in evolution."

²⁰Issues of the *Creation Research Society Quarterly* carry the "Statement of Belief" to which the Society's members subscribe. In part, it states: "All basic types of living things, including man, were made by direct creative acts of God during Creation Week as described in Genesis." Morris' writings make clear the non-scientific source of his basic views. He concludes a discussion of the earth's age, for example, by declaring: "The only way we can determine the true age of the earth is for God to tell us what it is. And since he has told us, very plainly, in the Holy Scriptures that it is several thousand years in age, and no more, that ought to settle all basic questions of terrestrial chronology." (Morris, *Remarkable Birth*, note 19, p. 94.)

²¹See Morris, *Remarkable Birth*, pp. 27, 42, and 76-77 and Morris, *Scientific Case*, note 19, pp. 34-36.

²²See Maurice Mandelbaum, "Darwin's Religious Views," *Journal for the History of Ideas*, 19 (1958), 363-378, and Moore, note 17, pp. 314-326.

²³Frank Miller Turner emphasizes this point in *Between Science and Religion: The Reaction to Scientific Naturalism in Late Victorian England* (New Haven, 1974).

²⁴See Morris, *Troubled Waters*, note 1, p. 22; Morris, *Scientific Case*, note 19, pp. 7-9; and Henry M. Morris, ed., *Scientific Creationism*, general edition (San Diego, 1974), pp. 4-10.

FOOTNOTES

¹Henry M. Morris, *The Troubled Waters of Evolution* (San Diego, 1974), p. 75. A leading scientific creationist, Morris is or has been director of the Institute for Creation Research in San Diego, president of Christian Heritage College in San Diego, president of the Creation Research Society, and member of the board of directors of the *Creation Research Society Quarterly*.

²For discussions of aspects of this revolution, see Susan Faye Cannon, "The Truth-Complex and Its Demise" in her *Science in Culture: The Early Victorian Period* (New York, 1978), pp. 263-287; Owen Chadwick, *The Secularization of the European Mind* (Cambridge, 1975); Michael Ruse, *The Darwinian Revolution: Science Red in Tooth and Claw* (Chicago, 1979); and David B. Wilson, "Concepts of Physical Nature: John Herschel to Karl Pearson," in U.C. Knoepfelmacher and G.B. Tennyson, eds., *Nature and the Victorian Imagination* (Berkeley, 1977), pp. 201-215.

³See William Coleman, *Georges Cuvier, Zoologist* (Cambridge, Mass., 1964); Richard W. Burkhardt, *The Spirit of the System: Lamarck and Evolutionary Biology* (Cambridge, Mass., 1977); and Martin J.S. Rudwick, *The Meaning of Fossils: Episodes in the History of Paleontology* (London, 1972).

⁴William Paley, *Natural Theology; Or, Evidences of the Existence and Attributes of the Deity. Collected from the Appearances of Nature*, 12th edn. (London, 1809), p. 441.

⁵See Joe D. Burchfield, *Lord Kelvin and the Age of the Earth* (New York, 1975), pp. 1-20.

⁶See M.J.S. Rudwick, "The Foundation of the Geological Society of London: Its Scheme for Co-operative Research and Its Struggle for Independence," *The British Journal for the History of Science*, 1 (1963), 325-355.

⁷See M.J.S. Rudwick, "Uniformity and Progression: Reflections on the Structure of Geological Theory in the Age of Lyell," in Duane H.D. Roller, ed., *Perspectives in the History of Science and Technology* (Norman, Okla., 1971), pp. 209-227.

⁸William Buckland, *Geology and Mineralogy Considered with Reference to Natural Theology*, 2 vols. (London, 1836), vol. I, pp. 18-21.

⁹See William Coleman, "Lyell and the 'Reality' of Species," *Isis*, 53 (1962), 333-334; Walter F. Cannon, "The Bases of Darwin's Achievement: A Reevaluation," *Victorian Studies*, 5 (1961), 131; and Cannon, *Science in Culture*, note 2, pp. 88-90.

¹⁰Cannon makes this point in *Science in Culture*, pp. 88-90.

¹¹The phrase was coined by John Herschel, probably the most respected