

Is Evolution a Secular Religion?

Michael Ruse

A major complaint of the Creationists, those who are committed to a Genesis-based story of origins, is that evolution—and Darwinism in particular—is more than just a scientific theory. They object that too often evolution operates as a kind of secular religion, pushing norms and proposals for proper (or, in their opinion, improper) action. Evolutionists dismiss this argument as merely another rhetorical debating trick, and in major respects, this is precisely what it is. It is silly to claim that a naturalistic story of origins leads straight to sexual freedom and other supposed ills of modern society. But, if we wish to deny that evolution is more than just a scientific theory, the Creationists do have a point.

The history of the theory of evolution falls naturally into three parts (1). The first part took place from the mid-18th century up to the publication of Charles Darwin's theory of natural selection as expounded in his *Origin of Species* published in 1859. Up until then, evolution was little more than a pseudo-science on a par with mesmerism (animal magnetism) or phrenology (brain bumps), used as much by its practitioners to convey moral and social messages as to describe the physical world. At the end of the 18th century, Charles Darwin's grandfather, Erasmus, wrote evolutionary poetry, hymning the progress of life from the monad to man—or, as he put it, from the monarch (the butterfly) to the monarch (the king). He derived this notion of biological progress from the successes of the Industrial Revolution and then used it in a circular fashion to justify the cultural progress of the Britain of his day. For example, in his *Temple of Nature* (2), Erasmus Darwin wrote:

*Imperious man, who rules the bestial crowd,
Of language, reason, and reflection proud,
With brow erect who scorns this earthy sod,
And styles himself the image of his God;
Arose from rudiments of form and sense,
An embryon point, or microscopic ens!*

The author is in the Department of Philosophy, Florida State University, Tallahassee, FL 32306–1500, USA. E-mail: mruse@mailier.fsu.edu

The same sort of stuff can be found in the writings of other early evolutionists, notably in the *Philosophie Zoologique*, published in 1809 by the Frenchman Jean-Baptiste Lamarck.

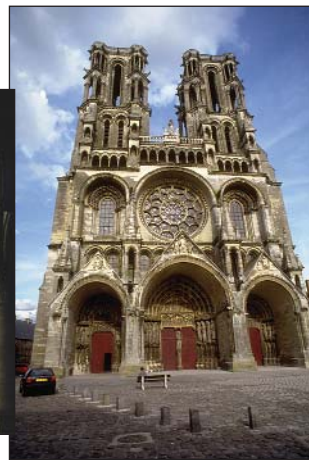
Charles Darwin, a serious full-time scientist, set out to change all of this. First, he wanted to give an empirically grounded basis for belief in the fact of evolution. Second, he wanted to persuade his readers of a particular mechanism of evolution, the natural selection of the successful brought on by the struggle for existence. In his first aim, Darwin was spec-

Creationists have argued that evolution is much more than a scientific theory. They claim that it is a secular religion with its own commandments, moral messages, and cathedrals.

sional science—the kind offered in lectures at universities, with dedicated students and well-funded research. It was not to be. A kind of bastardized Germanic evolution did make it into academia—but it was concerned less with mechanisms and more with hypothesizing about histories, being more connected to Ernst Haeckel's biogenetic law (“ontogeny recapitulates phylogeny”) than anything to be found in the *Origin of Species*. As a mature professional research area, evolution was a flop. It simply did not materialize.

Why was this? Darwin himself was an invalid from the age of 30, and any profession building had to be done by his supporters, in particular by his “bulldog,” Thomas Henry Huxley. In many respects, Huxley played to Darwin the role that Saint Paul played to Jesus, promoting the master's ideas. But just as Saint Paul rather molded Jesus' legacy to his own ends, so also Huxley molded Darwin's legacy. At the time that the *Origin of Species* was published, Britain was a country desperately in need of reform, as revealed by the horrors of the Crimean War and the Indian Mutiny. Huxley and others worked hard to bring about change, trying to move public perceptions into the 20th century. They reformed education, the civil service, the military, and much else.

Huxley's own work was in higher education, and he succeeded best in the areas of physiology and morphology. He realized that to improve and professionalize these fields as areas of teaching and research, he needed clients (a must in all system building). Huxley sold physiology to the medical profession, just then desperate to change from killing to curing. Huxley's offer of a supply of students, ready for specialized medical training, with a solid background in modern physiology was gratefully received.



Laon Cathedral, Laon, France (top) and the Natural History Museum, London, U.K. (bottom).

tacularly successful. Within a decade of the publication of his *Origin of Species*, thinking people were convinced of the fact of evolution. However, regarding his second aim to convince folk about natural selection, Darwin had less success. Most people went for some form of evolution by jumps (saltationism), inheritance of acquired characteristics (Lamarckism), or some other mode of change. Darwin failed in another respect, too. He hoped to upgrade the study of evolution to a respectable, profes-

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Morphology, Huxley sold to the teaching profession, on the grounds that hands-on empirical study was much better training for modern life than the outmoded classics. Huxley himself sat on the new London School Board and started teacher training courses. His most famous student was the novelist H. G. Wells.

Evolution had no immediate payoff. Learning phylogenies did not cure belly ache, and it was still all a bit too daring for regular schoolroom instruction. But Huxley could see a place for evolution. The chief ideological support of those who opposed the reformers—the landowners, the squires, the generals, and the others—came from the Anglican Church. Hence, Huxley saw the need to found his own church, and evolution was the ideal cornerstone. It offered a story of origins, one that (thanks to progress) puts humans at the center and top and that could even provide moral messages. The philosopher Herbert Spencer was a great help here. He was ever ready to urge his fellow Victorians that the way to true virtue lies through progress, which comes from promoting a struggle in society as well as in biology—a laissez-faire socioeconomic philosophy. Thus, evolution had its commandments no less than did Christianity. And so Huxley preached evolution-as-world-view at working men's clubs, from the podia during presidential addresses, and in debates with clerics—notably Samuel Wilberforce, Bishop of Oxford. He even aided the founding of new cathedrals of evolution, stuffed with displays of dinosaurs newly discovered in the American West. Except, of course, these halls of worship were better known as natural history museums (see the photographs).

As with Christianity, not everyone claimed exactly the same thing in the name of their Lord. Yet, moral norms were the game in town, and things continued this way until the third phase, which began around 1930. This was the era during which a number of mathematically trained thinkers—notably Ronald Fisher and J. B. S. Haldane in England, and Sewall Wright in America—fused Darwinian selection with Mendelian genetics, and thus provided the conceptual foundations of what became known as the synthetic theory of evolution or neo-Darwinism. Rapidly, the experimentalists and naturalists—notably Theodosius

Dobzhansky in America and E. B. Ford in England—started to put empirical flesh on the mathematical skeleton, and finally Darwin's dream of a professional evolution with selection at its heart was realized. But there is more to the story than this. These new-style evolutionists—the mathematicians and empiricists—wanted to professionalize evolution because they wanted to study it full time in universities, with students and research grants, and so forth. However, like everyone else, they had been initially attracted to evolution precisely because of its quasi-religious aspects, regardless of whether these formed the basis of an agnostic/atheistic humanism or something

to revitalize an old religion that had lost its spirit and vigor. Hence, they wanted to keep a value-impregnated evolutionism that delivered moral messages even as it strived for greater progressive triumphs.

This all meant that by the 1940s and 1950s the study of evolution was of two sorts. There was serious empirical work, very professional, containing few or no direct exhortations to moral or social action. Along with this, almost all of the leading evolutionists were turning out works of a more popular nature, about progress and the ways to achieve it. By the 1950s, evolutionary works, such as those by the Darwinian paleontologist G. G. Simpson, discussed democracy and education and (increasingly) conservation. In 1944, Simpson published *Tempo and Mode in Evolution*: straight science about natural selection and the

fossil record. Then, in 1949, he published *The Meaning of Evolution*: science for the general reader, packed with all sorts of stuff about the virtues of the American way over communism. (Remember, the Cold War was then settling into its long winter, and Trofim Lysenko was destroying Russian biology.) Finally, in 1953, came Simpson's *The Major Features of Evolution*, and we were back to straight science.

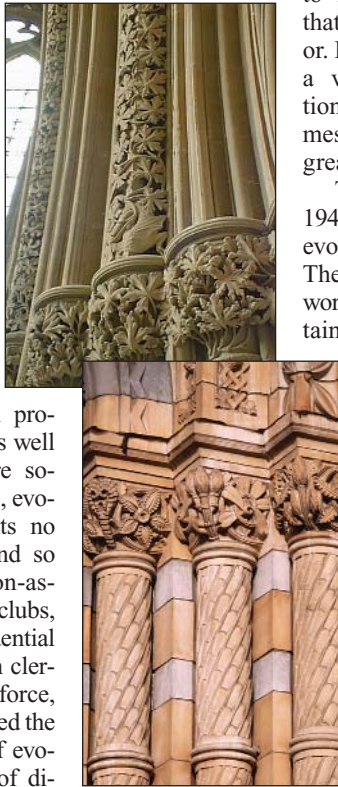
Things have continued in much the same way to the present. There is professional evolutionary biology: mathematical, experimental, not laden with value statements. But, you are not going to find the answer to the world's mysteries or to societal problems if

you open the pages of *Evolution* or *Animal Behaviour*. Then, sometimes from the same person, you have evolution as secular religion, generally working from an explicitly materialist background and solving all of the world's major problems, from racism to education to conservation. Consider Edward O. Wilson, rightfully regarded as one of the most outstanding professional evolutionary biologists of our time, and the author of major works of straight science. In his *On Human Nature*, he calmly assures us that evolution is a myth that is now ready to take over Christianity. And, if this is so, "the final decisive edge enjoyed by scientific naturalism will come from its capacity to explain traditional religion, its chief competition, as a wholly material phenomenon. Theology is not likely to survive as an independent intellectual discipline" (3). An ardent progressionist, Wilson sees moral norms emerging from our need to keep the evolutionary process moving forward. In his view, this translates as a need to promote biodiversity, for Wilson believes that humans have evolved in a symbiotic relationship with nature. A world of plastic would kill us humans, literally as well as metaphorically. For progress to continue, we must preserve the Brazilian rainforests and other areas of high organic density and diversity (4).

So, what does our history tell us? Three things. First, if the claim is that all contemporary evolutionism is merely an excuse to promote moral and societal norms, this is simply false. Today's professional evolutionism is no more a secular religion than is industrial chemistry. Second, there is indeed a thriving area of more popular evolutionism, where evolution is used to underpin claims about the nature of the universe, the meaning of it all for us humans, and the way we should behave. I am not saying that this area is all bad or that it should be stamped out. I am all in favor of saving the rainforests. I am saying that this popular evolutionism—often an alternative to religion—exists. Third, we who cherish science should be careful to distinguish when we are doing science and when we are extrapolating from it, particularly when we are teaching our students. If it is science that is to be taught, then teach science and nothing more. Leave the other discussions for a more appropriate time.

References and Notes

1. M. Ruse, *Monad to Man: The Concept of Progress in Evolutionary Biology* (Harvard Univ. Press, Cambridge, MA, 1996).
2. E. Darwin, *The Temple of Nature* (J. Johnson, London, 1803), vol. 1, canto 1, lines 309–314.
3. E. O. Wilson, *On Human Nature* (Harvard Univ. Press, Cambridge, MA, 1978), p. 192.
4. See, for example, E. O. Wilson, *Biophilia* (Harvard Univ. Press, Cambridge, MA, 1984) and E. O. Wilson, *The Diversity of Life* (Harvard Univ. Press, Cambridge, MA, 1992).



Columns of a church (top) and of the Natural History Museum, London (bottom).