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Book Review of Evolution as Religion

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Bajema, Carl J., "Book Review of Evolution as Religion" (1987). *Other Scholarly Publications*. 5.
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CHICAGO JOURNALS

Review: [untitled]
Author(s): Carl Jay Bajema
Source: *The Quarterly Review of Biology*, Vol. 62, No. 1 (Mar., 1987), pp. 57-58
Published by: The University of Chicago Press
Stable URL: http://www.jstor.org/stable/2827331
Accessed: 30/08/2010 15:30

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Christianity had not impeded science, but had rather fostered it by propounding the notion that nature behaves in a regular and lawful manner, a fundamental premise to science. The book reflects the editors' "conviction that the interaction of science and Christianity has been of profound importance in the shaping of Western civilization. . . . In recent years historians of science and religion have substantially revised many of their opinions" (p. ix).

Few scientists are likely to be interested in reading through all 18 chapters of *God and Nature*, but many will want to read one or another chapter and all could benefit from doing so. The sweep is broad, from the early Christian Church and Medieval theology to 20th Century physics and process theology, with intermediate passes through the ecclesiastic (but not priest) Copernicus, the belligerent Galileo, the devout Newton, the quite revolutionary Darwin, the tortuous excesses of creation-scientists, and many, many more. (The qualifiers in the previous sentence are mine. I hope they give informative hints; but the book's tone is definitely restrained although not vapid.)

God and Nature deserves only praise. It covers all major hallmarks in the intertwined histories of science and Christianity with as much detail as could possibly be expected in 500 pages. The balance given to different personages or events can hardly be faulted; the scholarship and documentation are admirable (but not in the least obtrusive); the style is clear and often crisp. My personal preferences make me wish that some subjects had been included: the proto-evolutionary ideas of the Church Fathers of Nazianzus or of St. Augustine, who propounded the notion that God did *not* separately create all species of animals and plants; the important treatise on natural history of St. Albert the Great in the thirteenth century; the influence on Christian thought of medieval Arab scientists and philosophers who, in active cooperation with Jewish scholars, worked in Toledo under the aegis of the Christian king; the significant contributions of evolutionary theory to important trends in Catholic theology through the 1940s to 1960s, and others. But the pettiness of these preferences buttresses my point that the breadth and balance of the book deserve utmost praise. No better book exists on the subject.

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EVOLUTION AS A RELIGION. *Strange Hopes and Stranger Fears.*

By Mary Midgley. Methuen, New York. $33.00 (hardcover); $11.95 (paper). ix + 180 p.; index. 1985.

This book of essays grew out of an article by the same name recently published in *Darwinism and Divinity*. Mary Midgley, a philosopher, attempts to analyze "doctrines which are believed to be scientific, but are not actually so, and whose persuasiveness seems to be due to their serving some of the functions of a religion . . . the spiritual nourishment and salvation of the human race" (p. 13). She concentrates on what she perceives to be the two major distortions of biology—(1) sociobiology, a modern version of social Darwinism which contends that life is essentially competitive, and (2) the escalator fallacy, which contends that evolution is a "steady, linear upward movement, a single inexorable process of improvement" (p. 6).

The escalator fallacy incorporates what Midgley calls the myth of guaranteed progress. Midgley briefly points out the scientific shortcomings of this fallacy, which has been championed by Lamarck, Spencer, and Marx and his followers. Midgley expresses her concern that visions of a dazzling future distract cosmic optimists from dealing with present problems, and even provide an excuse for immediate crimes, as the histories of certain religious faiths (Christianity) and secular faiths (Marxism) illustrate.

Although Midgley damns what she considers to be the unscientific claims of sociobiology, she does not make a very compelling scientific argument for her case against life being essentially competitive. Her major concern with sociobiology as a guide for human conduct is that it encourages cosmic pessimists either to adopt a helpless fatalism or to use sociobiology as a positive justification for engaging in selfish mayhem.

Midgley draws attention to the fact that biologists such as Julian Huxley and Edward O. Wilson have realized that science does not eliminate the human desire for religion. Consequently they have attempted to replace religious belief systems with non-theistic systems that incorporate a variety of scientific concepts and yet still give meaning to human existence. These "secular faiths" deserve far more careful philosophical analysis than is found in this book.

Midgley summarizes and rejects the views of the biologist Jacques Monod concerning chance and necessity. She also rejects Monod's contention "that science is indeed the only field where thought is possible. Everything else must be left to choice; not reasonable choice but choice in the existentialist sense of blind inarticulate will (p. 92). The fact that Midgley doesn't present a set of guidelines for rationally evaluating claims concerning value may lead some of the readers of *Evolution as a Religion* to conclude that Monod may be right.

Scientists and others need a better understanding of the interaction of science with religion, politics and other fields of human endeavor. *Evolution*

as a Religion is an interesting philosophical contribution toward this goal.

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BIOPHILOSOPHICAL IMPLICATIONS OF INORGANIC AND ORGANISMIC EVOLUTION.

By Bernhard Rensch. Verlag die blaue Eule, Essen. DM 29,- (paper). i + 199 p.; ill.; author and subject indexes. 1985.

This condensed paperback volume introduces English-speaking biologists to the ideas of one of the few scholars who calls himself a biophilosopher. After reviewing the principles of evolution, Rensch has chapters on the evolution of mind, epistemological problems of body and soul, and matter and mind, followed by a discussion of cultural evolution in our species. Two final chapters deal with the question of whether we have any freedom of thinking as opposed to prior determination of all our behavior and thoughts.

Before rejecting such a broad survey of major philosophical ideas as hopelessly vague, contemporary scientists might profit from closer attention to many of the subjects Rensch discusses, if only because he shows how many basic tenets of contemporary science are not accepted by thoughtful scholars from other fields. For example, our admiration for the "hard" physical sciences has led most biologists to accept without question the universal validity of the Heisenberg uncertainty principle. But Rensch reviews the doubts of several philosophers as to whether the "microphysicists" have established more than "that our present knowledge is not sufficient to show certain causal relations" (p. 17). Elsewhere Rensch discusses the theoretical question of whether absolute chance or randomness is a valid concept. The opposing view that emerges from this discussion is that we cannot distinguish between randomness and ignorance of multiple deterministic causes.

A considerable portion of the book discusses the evolution of mind and consciousness. Rensch feels it likely that a wide variety of animals experience at least simple conscious thoughts, and he concludes: "apparently conscious phenomena must not necessarily be based on the existance of a (cerebral) cortex as one formerly assumed" (p. 86). Nevertheless he doubts that self-consciousness occurs in any but our closest animal relatives. Rensch concludes, tentatively, that the mind-brain problem can best be solved by assuming what he calls a "panprotopsychic identism based on the immediate temporal correspondence of psychic and psychological brain processes" (p. 172). This view assumes that a functioning central nervous system is needed for conscious mental experiences, but recognizes the reality and significance of mental events.

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DARWIN'S METAPHOR. *Nature's Place in Victorian Culture.*

By Robert M. Young. Cambridge University Press, Cambridge and New York. $44.50 (hardcover); $15.95 (paper). xx + 341 p.; index. 1985.

What were the scientific and theological sources and sequelae of Darwin's achievement? How was Malthusian theory intricately linked to the development of evolutionary biology? What role did the nascent science of psychology play in debates on mind in nature? What was the natural history of "natural selection"? What does the Victorian periodical press reveal about the cultural relations of natural theology and science? What are the historiographic and ideological dimensions of the 19th Century debate on "man's place in nature"?

In *Darwin's Metaphor* Robert Young, the radical historian of science, brings together six previously published essays examining these questions of the social matrix and meanings of 19th Century theories of evolution. The studies broke new ground when they were written in the late 1960s and early 1970s, and they remain fresh, lively, and richly suggestive. Marked by Young's passionate commitment to recovering a usable past—one that promotes the work of creating a world of equality and justice—this book stands both behind and with the best Darwin scholarship of the 1980s.

Social historians of biology have learned that scientific ideas are developed and deployed within preexisting social structures and systems of beliefs and values. Connections between scientific ideas and social interests are contextually mediated. Discerning the context, content, and concrete means of mediation is difficult because the lines that seem to separate thought about nature, God, and human society are always shifting. In the fine texture of public discourse in Victorian Britain what we now distinguish as "moral," "political," "religious," and "scientific" was routinely conflated. The historian's task is to show the difference between what took place in the past and *what was going on* in what took place.

Scientific knowledge is a cultural product with many uses. Although its theories and conclusions are indeed constrained, they are still underdetermined by reality. "Of course, external nature exists," writes Young, "but all attempts to know it—to qualify or quantify it in any way—are inescapably mediated through human consciousness, and consciousness is a sociopolitical and ideological mediator" (p. 241). Readers should not fear that Darwin