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Science Held Hostage: What's Wrong with Creation Science AND Evolutionism by Howard J. Van Till, Davis A. Young, and Clarence Menninga. Downers Grove, IL: InterVarsity Press, 1988. 189 pp. (price unknown; out-of-print, paper). ISBN 0-8308-1253-9. (Retrospective review.)

This book is outstanding in at least two ways: It describes concisely and clearly what science is and how science is done, concentrating particularly on features that matter for debates over evolution and creationism. Second, the book gives a sound critique of invalid invocations of science and unwarranted assertions from prominent scientific popularizers who state or imply that science and evolution disprove theism[1]. This makes the book (though out-of-print[2]) worth mentioning in connection with the revived controversy over creationism in its latest guise as "intelligent design theory".

The aim of the book is described as challenging some misperceptions about the professional scientific enterprise and illustrating the mischief that flows from them. Part I, in two chapters, points out that the natural world is the *object* of scientific inquiry, and describes the proper *domain* of that inquiry and the practices that have come to be accepted in the scientific community. Good science demands competence and integrity. Sound scientific judgments of proposed theories are based on such values as cognitive relevance, predictive accuracy, coherence, explanatory scope, unifying power, and the fertile

generation of leads for further investigation. "Although the entire physical universe may be the *object* of investigation by the natural sciences, not all of its attributes fall within the *domain* of scientific inquiry" (p. 15): the natural sciences have nothing to say about *meaning* or *purpose*. It is *scientism*—an ideology, a secular religious belief—to assert that only science can deliver meaningful answers or that science can deliver answers about all meaningful questions. Personal ideological commitments can provide motives for undertaking scientific work, but they must not influence how the work is done. Such statements as "physical phenomena are governed by the laws of nature" are exposed as deceptive: the laws of nature *describe* behavior, whereas such terms as "govern" imply an ultimate control that seems incongruous in a materialist framework that denies purpose. Science is ineradicably an empirical enterprise. It cannot discover—or at any rate, it cannot prove—its theories, whose basis can only be inductive and therefore tentative pending future experience.

Part II of the book criticizes incisively the dishonesty and incompetence of criticisms of evolutionary theory made by young-earth creationists. It pulls no punches: "Our special concern . . . is to document how a commitment to the 'scientific creationist' picture of cosmic history has functioned to diminish the demand for both craft competence and professional integrity . . .. When natural science is held hostage to support preconceived answers, it can no longer serve in the open-minded search for knowledge" (p. 45). Points commonly raised by young-earth creationists are judged "a clear failure to live up to the codes of thoroughness and integrity that ought to characterize professional science" (p. 80); "an intolerable violation of the standards of professional integrity" (p. 82); "a false assertion made either in ignorance or defiance of a wealth of information available in the professional geological literature" (p. 105); and much more of the same, all substantiated in detail and with appropriate citation. (The creationist arguments demolished are in chapters entitled "The legend of the shrinking sun"; "Footprints on the dusty moon"; "Timeless tales from the salty sea"; "Making mysteries out of missing rock".)

Though Part II is of little substantive contemporary interest, it is worth noting as an example of the many available instances, in court cases and public debates as well as in writing, where Christian theists roundly take to task "scientific creationists"; though the latter pretend that their quarrel is with "science" or "evolutionism" or "Darwinism", they are actually at odds with the overwhelming majority of thinking Christians. By stark contrast, it is hard indeed to find members of the scientific community who take to task those who abuse the authoritative status of science as they promulgate scientistically their personal, materialist, reductionist, atheistic belief. As Part III of this book points out, "perhaps because of the respect and credibility that the sciences have rightfully gained, many persons have been tempted to exploit the good name of science by speaking as if their particular religious or ideological perspective were derivable solely from the established results of scientific investigation" (p. 125). One who did this is Isaac Asimov, as amply illustrated in chapter 7, for example, "natural

phenomena of Earth and of the Universe have seemed to fall into place bit by bit as behavior that is random, spontaneous, unwilled. . . . the scientific view sees the Universe as following its own rules blindly, without either interference or direction" (p. 131, citing Asimov's *In the Beginning*, 1981).

"Well, what's wrong with that?" some may ask. "Science only deals with material, non-transcendent matters, after all." That is precisely the point. Since science can only deal with those, therefore it cannot be said to have reached conclusions about transcendental questions, about ultimate origins, about ultimate causes, about meaning or purpose or will. "Some individual scientists may have reached the conclusion that natural behavior is blind and unwilled by anything outside nature. However, science as a professional, communal enterprise has never made any judgment that natural behavior is either blind and unwilled or directed and willed by something outside of nature. Furthermore, science has made no judgment as to whether or not 'interferences' with the supposed 'laws of nature' are possible or have happened" (p. 131); and here the book mentions a number of prominent scientists who have *not* reached the same conclusion as Asimov.

Also discussed in chapter 7 is Douglas Futuyama's *Science on Trial* (1983). Futuyama is emphatically praised for explicitly recognizing and respecting what the proper object and domain of science are, rejecting such invalid extrapolations from science as social Darwinism. The valuable exegetical work that Young does in this chapter[3] is to make plain how Futuyama's presentation nevertheless fails to choose words that instantiate his explicit statements on these points. For example, Futuyama says that human beings were not predestined to appear. Correct, says Young, *from a biological perspective*; but not necessarily from a theological perspective (pp. 135–136). Again, when Futuyama writes: "Some shrink from the conclusion that the human species . . . has no purpose, and is the product of purely material mechanisms—but this seems to be the message of evolution" (pp. 136–137), is not the reader likely to infer that Futuyama endorses this "message of evolution"? Such theists as Young agree that human beings developed through material evolutionary mechanisms *but not only, purely, or solely* through those. The same sort of fault can be found with Futuyama's remark that "In the world of nature, there is neither good nor evil" (p. 138).

Chapter 8 exposes P. W. Atkins's *The Creation* (1981) as a work of scientism. It "claims to draw only from the well of natural science and the reservoir of its logical implications" (p. 142), yet asserts that "*science* . . . appears to be on the edge of explaining everything" (pp. 144–145). This is "naturalistic folk science", which "seeks to warrant its belief in reductive materialism by constructing arguments which have the appearance of being logical extrapolations from the results of professional natural science" (p. 153).

Perhaps the strongest criticism is directed at Carl Sagan's *Cosmos*, whose tone is epitomized in Sagan's opening assertion that "The Cosmos is all that is or ever was or ever will be" and his subsequent equation of the Cosmos with the

physical universe (p. 147). "Reality was reduced to matter alone, and a fittingly bounded respect for science was replaced by an unrestrained scientism" (p. 160). "Although the forms of religious theater found in 'Cosmos' may have been more subtle than what one finds in a fundamentalist revival tent, its evangelistic fervor was nonetheless intense" (p. 176). The internal contradictions of Sagan's stance are also made plain: "Sagan called us to be loyal and reverent toward the Cosmos. But if that Cosmos is itself both impersonal and indifferent to our human concerns, what satisfaction can possibly be derived from such loyalty? Where the naturalistic religious agenda sought to plant hope we find sprouting the seeds of futility" (p. 166).

This is an incisive, knowledgeable, and fair-minded work. The extremists on both sides of the "creation–evolution" debates are equally castigated:

> "Evolutionary naturalism is a folk science which seeks to employ the scientific concept of evolutionary development as a warrant for its nontheistic world view. Scientific creationism is a folk science which claims scientific evidence for its scenario of a recent creation by divine fiat. The debate, therefore, is not a contest between natural science and religious belief. It is a confrontation of two folk sciences, each seeking to employ the results of scientific investigation in the support of its own world view" (p. 171).

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Notes

[1] So does *Finding Darwin's God: A Scientist's Search for Common Ground Between God and Evolution* by Kenneth R. Miller, reviewed by Karl D. Fezer in *JSE* 17(1).

[2] I obtained a copy within a couple of days through the Interlibrary Loan system and also found several second-hand copies for between $8.88 and $10.10 through http://dogbert.abebooks.com/, http://www.bookfinder.com/, and http://www.amazon.com/exec/obidos/subst/books/misc/bibliofind.html/.

[3] The individual chapters were written individually by the three authors of the book.

1421: The Year China Discovered America by Gavin Menzies. New York: William Morrow, 2003. xxiv + 532 pp., plates, figures, maps, references, index. $27.95 (cloth). ISBN 0-06-053763-9.[1]

A massive book about an alleged 1421–1423 (and therefore pre-Columbus) Chinese exploration of the world, including America, was on the *New York*