Reviews

Creationism on Trial: Evolution and God at Little Rock. By LANGDON GILKEY. Minneapolis: Winston Press, 1985. 301 pages. $12.95 (paper).

Despite their total failure in the United States legal system to smuggle creationism into the public schools as science, it is unlikely that its proponents are going either to disappear or to quiet down. This book would serve as an excellent introduction to the basic questions and levels of issues involved in this complex phenomenon. It consists of a report on and analysis of the creationist trial in Little Rock, Arkansas, 7-11 December, 1981. In addition to sections on "The Trial" (pp. 3-158) and "Analysis and Reflection: The Implications of Creation Science for Modern Society and Modern Religion" (pp. 1161-234), it includes two appendixes (A: Arkansas Act 590; B: Judgment by the Federal Court by U.S. District Judge William R. Overton). There are no indexes.

Langdon Gilkey, the distinguished professor of philosophical theology at the University of Chicago Divinity School, was engaged by the American Civil Liberties Union as a witness at the trial. In the first section of the book ("The Trial"), Gilkey describes in lively, journalistic, and humorous fashion his experiences with the case, from first phone call to final testimony. Three chapters present "The Initiation of a Witness," the "Preparation for the Case," and his "Deposition." The following three chapters deal explicitly with the trial itself, its "Religious and Historical Backgrounds," the "Theological and Philosophical Issues," and finally, "The Overwhelming Weight of Scientific Evidence." In these chapters, the testimonies of ten witnesses are succinctly covered: Methodist Bishop Kenneth W. Hicks (pp. 83-85); Old Testament scholar Rev. Bruce Vawter (pp. 85-87); historian of fundamentalism George Marsden (pp. 87-91); social scientist Dorothy Nelkin (pp. 92-93); Gilkey's own testimony (pp. 94-126); philosopher of science Michael Ruse (pp. 127-37); geneticist Francisco Ayala (pp. 138-41); geologist G. Brent Dalrymple (pp. 142-44); biochemist and biophysicist Harold Morowitz (pp. 144-48); and paleontologist Stephen Jay Gould (pp. 149-51). Since Gilkey then had to return to Chicago, he does not cover the testimony of Arkansas teachers or of the witnesses for the defense.

The bill passed in Arkansas (Act 590) required balanced treatment in public school science classrooms of the two models of "creation science" and "evolution science." While not challenging in any way the right of fundamentalists and creation scientists to hold and say whatever they like, Gilkey opposed the particular legislation as a disaster for religion, for science, and for academic freedom (pp. 10-16). His goal, both in testifying and in writing this book was "to save the Christian faith from an untrue and yet fatal identification with intolerant literalism on the one hand and an anti-scientific attitude on the other" (p. 13).

In preparing for his deposition, Gilkey had two main tasks: first, to become acquainted with creation science, and second, to formulate his own positive contribution. To the first end, he read extensively the writings of creation

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science, and he discusses these works, the authors and their backgrounds, and their ideas about science and religion. To his surprise, he could not describe them as anachronistic or antiquated. They are both contemporary and up-to-date, but represent "a serious misunderstanding of scientific method and a literalization of religious beliefs . . ." (p. 40). Creation science is "half-misinterpreted religion and half-misinterpreted science" (p. 40). As to his second task, he details the relationship of science and religion, the meaning of revelation and creation, and how this differs from science. Finally, he discusses the philosophical aspects of scientific inquiry and its truth claims (pp. 42-73). This material provides, in a clear and understandable way, important background which underlies almost all of the trial testimonies subsequently described.

The second part of the book ("Analysis and Reflection") is in some ways the most important but is also more difficult to summarize briefly. The first chapter of the section deals with "Science and Religion in an Advanced Scientific Culture." We live in a world in which science so permeates all levels of our lives that we can legitimately speak of "the establishment of science" in the same way as of an "established religion" (pp. 162-65). Because this is so, science "must understand much better than it has its own procedures, their limits, and the relations of those limits to other elements of that cultural world over which it presides . . ." (p. 165). Among those other elements is the presence of religion and the religious. Scientists, from their position of cultural hegemony, need a much better understanding of what religion is, how it functions, and what its forms are, including its destructive and demonic forms (p. 202). Dogmatism, exclusivism, and intolerance are dangers on both sides of the debate. "Religion in one form or another . . . is and will be there, like science, and it will be there in demonic or in creative form. Thus the relations between these two essential and permanent elements of culture represent a recurrent and foundational problem. Those relations . . .are an issue on which each of our communities, both the religious and the scientific, should be informed . . . . Critical and reflective interpretation of *both* science and of profound religion should be a part of the self-understanding of *both* communities . . ." (pp. 204-205).

To contribute to this mutual understanding, Gilkey presents his final chapter, "The Shape of a Religious Symbol and the Meaning of Creation." Since the error "that religious speech and scientific speech are of the same sort, so that one of them excludes or replaces the other" (p. 215) dominates both sides of the controversy, he attempts to clarify the meaning of religious symbols and religious discourse. To exemplify the issue, he then develops the meaning of the religious symbol "creation," obviously a key one in the debate.

Religion and science are both legitimate enterprises and are here to stay. The question is not science or religion, or science against religion (and vice versa); there need be no conflict. Gilkey's work is one of description (of his experiences with the trial) and one of exposition (of some of the key issues involved). It is also one of exhortation; he pleads for greater dialogue and greater understanding between science and religion and has here made a significant contribution to that dialogue. I can recommend no better place to begin than with this book.

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The Fourth Day: What the Bible and the Heavens Are Telling Us about the Creation. By HOWARD J. VAN TILL. Grand Rapids, Mich.: William B. Eerdmans, 1986, 286 pages. $9.95 (paper).

This is not just another book against creationism, although that is the major theme. The book deserves wider discussion for three reasons: First, it shows that creationism is not the only possible approach in orthodox Protestantism; it offers its own proposal for combining science with a Christian perspective while objecting to an identification of orthodox Protestantism with creationism. Second, the author deals very respectfully with science and Scripture without playing down or watering down either one or the other; thereby the book offers an alternative to more drastic theological revisions of Christianity. Third, the book also argues against naturalism as a second type of opponent along with creationism. Van Till's criticisms of naturalism are worth consideration by those who are prone to it, and for *Zygon* readers that temptation might be stronger than that of creationism.

Howard J. Van Till is professor of physics and astronomy at Calvin College in Grand Rapids. He is a clear teacher, as the middle part of the book, "The Scientific View," shows. Van Till also stands—by background, professional environment, and personal conviction—in the tradition of the Reformed Churches. This is especially clear in the first part, "The Biblical View," and the third and last part, "Integrating the Two Views." However, his references are not restricted to his own approach, as the well chosen "Recommendations for Further Reading" show.

Van Till's basic methodological principle is *categorical complementarity*: A question should be addressed to an appropriate source. Questions about "internal" affairs, the properties and behavior of entities, are best directed to the material world, the Creation. Questions about meaning and value are for the Christian questions about one's relation with God (hence, "external" affairs). Such questions are best addressed to the Bible. Both sources, the Bible and the Creation, have their limitations and their opportunities.

The core of the Bible is, according to Van Till, the covenant. The proper function of the Bible is to bring the reader into right relationship with God and with the rest of creation. Proper use of historical-critical and literary methods will allow us to see God's message all the more clearly. God is not only the Originator but also the Sustainer, as well as the Governor who provides for the needs of his creatures.

In the second part of the book Van Till presents some scientific information as well as his view of the nature of science. He strongly argues against dismissing science, but he also points out some of its limits. By concentrating on stellar evolution he shows the finite, although long, time scale of cosmic history, the coherence of the processes in the Universe, and the interdependence of phenomena. His examples include our being made from elements formed in previous generations of stars.

The third part sets forth the method of categorical complementarity. In the chapter that deals explicitly with creationism ("More Heat Than Light: The Creation/Evolution Debate") he rejects as false opposition "either evolution or creation." Naturalistic evolutionism and creationism use an inflated idea of evolution—as if it would explain everything, if true. They also share a deflated

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idea of creation—as being about sudden origination in complete form. The creationist view implies that information provided by God is unreliable, as the information provided in Creation, and discovered through science, suggests ages which are older than a few thousand years and sources which are farther away than a few thousand light years. This leads to a deficient view of God.

The final chapter, "The Creationomic Perspective," summarizes Van Till's own position and discusses proper ways to teach these subjects in public and Christian schools.

Van Till touches on a few issues that cross the boundary between the two sets of questions and the two domains. Examples of such issues are origin, governance, and purpose. In my opinion, clarification of these issues would be welcome, especially regarding how directionality (as a counterpart of purpose) enters into the scientific part. It is also clear that Van Till rejects a limitation of God's activity to an initial event or a few special moments. Nor does he restrict God's action to "gaps," to the things we do not know or understand. Rather, God's providence is to be understood as working in *all* events. However, in my opinion, a more explicit view of divine action in a way which takes the sciences seriously would have made the book more complete. Of course, such an expansion might be too much for the specific aim of this book.

Van Till does not address two issues where, in my view, genuine tension between theology and science might arise: extraterrestrial life and cosmic prospects for the far future. He does not exclude planet formation or biology from lawful, coherent behavior. This suggests that he allows for moral, sentient, and intelligent life elsewhere. They are, of course, related to the Creator, but what does it imply for our view of Jesus Christ? And if all the stars will eventually burn out, how about directionality and purpose?

This book deserves the attention of *Zygon* readers although it is not aimed directly at them. In addition to being a clear presentation of Van Till's position, it is also courageous, since, as one could anticipate, it evoked some very negative reactions within his own church. Hopefully it will be widely recognized as an honest position, one which combines faith in the Creator with taking seriously the world, his Creation, as known through science. Even for those who are not tempted by creationism, the book is valuable as it shows possibilities present in theistic-covenantal theology.

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The Travail of Nature. By H. PAUL SANTMIRE. Philadelphia: Fortress Press, 1985. 288 pages. $15.95.

An historical overview of the relationship of Christian theology to an understanding of nature is a much needed study for our time. The well-known thesis that, at least in the West, it was a religious view that was a necessary condition for the misuse and exploitation of nature requires that thorough research be done to analyze the justification for such a thesis. Such a study will also show if there are resources in the history of Christian thought that can be used validly

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in helping to take responsibility for the natural order, of which humankind is a part. While this book assists in gaining understanding in these two areas, the author is careful to maintain the historical intention of his work, and does not engage in systematic or contemporary application where relevance to ecological matters is developed.

In the opening chapters Santmire acknowledges the thesis which many claim as being central to the biblical tradition; that is, that the biblical perspective is centered on the human and history in such a way that a theology of nature derived from scripture is not possible. More strongly stated: "Orthodox Christian thought always construes God and humanity apart from, or over against, the world of nature" (p. 5). From Santmire's point of view this understanding is misconceived. Far from Christian thought about nature being ecologically bankrupt, a closer examination of the classical-biblical tradition will show that a "new theology of nature" can be developed as relevant to our day.

Santmire recognizes an ambiguous ecological promise in the history of Christian thought. A tension can be discerned between the spiritual motif and the ecological motif of theological reflection. The first is based on an otherworldly ascent of the human spirit, rising above nature to commune with God. The second motif is based on the human spirit being rooted in nature in such a way that God's presence is experienced in and through nature and obedience to God is pursued in this context. To interpret these motifs the application of certain metaphors is suggestively used, for example, the metaphors of ascent, fecundity, and migration to a good land. These metaphors are used to discern in the Christian tradition the variety of ways in which Christian teaching has been used and can more profitably be used in developing a theology of nature. Irenaeus's theology of history includes nature, thus expressing the metaphor of fecundity and migration to a good land. His is truly an ecological theology which includes nature as being summed up in Christ. He can say in a way that shows a panentheistic relationship of God to the world that God is the one "who containing all things, alone is uncontained" (p. 39). Much of the remainder of the historical section of the book seeks to show that the spiritual motif of ascent expressed in Origen dominated the Christian vision, though with a few important exceptions illustrated in part by Augustine and Francis of Assisi. The discussion of Francis on the self-empting of God in the incarnation is profound and illumines how such a motif can guide theological thinking for a responsible attitude toward nature. Santmire skillfully and with rich nuance outlines Christian thought on nature in the Middle Ages, the Renaissance, and the Reformation. This sets the stage for an analysis of contemporary thinkers and an interpretation of the biblical materials that suggests that far from being bankrupt, Christian theology may find within it suitable material with which to form a relevant and responsible ecological understanding of reality.

Santmire is determined to show that the anthropological way of reading the Bible is not adequate. He questions whether humankind is at the center of biblical concern, while nature is only a backdrop to what is really important in the human realm. For Santmire God and the human can be seen together in the biblical perspective. Themes of the promise of the land to Israel and of blessing show an alternative to the motif of spiritual ascent. God's action in blessing is in continuity with God's promise of the land and God's action in nature. The self is not envisioned as knowing God through an ascent out of the context of nature. The anthrocentric focus often upheld as a major theme in Old Testament faith, where the redemption of the human is seen as primary, is not a complete way to read God's relation to Israel. Santmire shows how Old Testament scholarship

also puts together the Lord who elects with the one who is Lord over nature and the Creator. Redemption and nature are not separated in such a way that a human centered salvation becomes the focal point of the God-human relationship, and therefore open to an ascent motif which highlights a spiritual relationship to God.

The context of Jesus' teaching is an apocalyptic framework where a new heaven and earth are projected. The kingdom of God is construed as involving a transfigured earth, both by implication in Jesus' framework and directly in the deutero-Pauline materials. In my opinion, the richness and thoroughness of Santmire's discussion of biblical themes showing the ecological thrust of a theology of nature is impressive. These biblical materials, combined with the historical and theological discussions of the earlier part of the book, provide significant resources to elaborate a vision of nature and humanity's responsibility for it with God.

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Darwinism and Divinity: Essays on Evolution and Religious Belief. Edited by JOHN DURANT. Oxford: Basil Blackwell, 1985. 210 pages. $24.95.

John Durant, staff tutor in biological sciences at Oxford, here offers us a diverse, interesting, and useful collection of seven essays which grew out of a conference organized by the British Society for the History of Science in 1982 to celebrate the centenary of Charles Darwin's death. A major value of the book, particularly for the general reader, is that it brings together commentary from several different disciplines on a wide range of aspects of the relation of Darwin, evolutionary theory, theology, and religion.

As one expects in any such collection, the individual essays excite varying degrees of interest. Durant himself gives us a lively and responsible sketch of some moments in the "century of debate" over Darwinism and "divinity." One has to say "some moments" because the essay, like the book as a whole, is oriented almost entirely to the English-speaking world, and indeed the Protestant world—so that the novice reader gets no hint of the intensity of the discussion on the European Continent, especially in Germany, France, and the Netherlands, nor of the character of the Roman Catholic response, except for the notice of Teilhard de Chardin. Compare, for example, the wide scope of Thomas F. Glick, ed., *The Comparative Reception of Darwinism* (Austin, Tex.: Univ. of Texas, 1972).

For this reader, the most interesting chapters are those by John Hedley Brooke, senior lecturer in history of science at the University of Lancaster, and by Eileen Barker, dean of undergraduate studies at the London School of Economics and Political Science. In "The Relations Between Darwin's Science and His Religion," Brooke draws on Darwin's papers and letters to probe behind Darwin's public reticence regarding the relation of his science to religion. From this, Brooke gives a valuable account of Darwin's own religious perspectives. Furthermore, he develops in a persuasive and illuminating way

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the case for several important *structural* congruities of Darwin's science with the natural theology of William Paley, which had saturated the atmosphere of Darwin's Cambridge education. This argument goes a long way to justify the assertion, which Durant makes in his introductory essay, that "*Origin of Species* is the last great work of Victorian natural theology," while being also "the greatest (if not actually the first) work of Victorian evolutionary naturalism" (p. 16).

Barker's essay is titled, "Let There Be Light: Scientific Creationism in the Twentieth Century." Here Barker traces in a succinct and balanced way the emergence and development of "scientific creationism" in the American scene down to the Arkansas case of 1982, which was a turning point in the political fortunes of the movement. She gives a fair and balanced representation of the differences in views within the movement and is sensitive to the social forces leading to its appearance.

In an essay on "Herbert Spencer's Henchmen: The Evolution of Protestant Liberals in Late Nineteenth Century America," Jim Moore, who teaches history of science and technology in the Open University, extends the admirable analysis in his *The Darwinian Controversies: A Study of the Protestant Struggle to Come to Terms with Darwin in Great Britain and America*" (1979). Here he shows the degree to which it was not Darwin but Herbert Spencer who dominated the evolutionary perspective of late-nineteenth century American Protestant liberalism. In a nice combination of social and intellectual history, he makes the case that the "evolutionary and biologistic vision of a progressive social order" which captivated many liberals "owed more, directly or indirectly, to Spencer's philosophy than to any other single source" (p. 89).

Ironically, because one expects so much more, the most disappointing essay in the volume is the constructive statement on "Biological Evolution and Christian Theology—Yesterday and Today," by Arthur Peacocke, the well-known founder and director of the Ian Ramsey Centre (for the study of ethics) at Oxford. Peacocke does extend the discussion (albeit sketchily) to the German and French, as well as the Roman Catholic, contexts. And as a physical biochemist as well as a knowledgeable theologian, he is able to give a clear report as to what the Darwinian, or neo-Darwinian, theory is all about, and to provide a good brief sketch of what he calls "constructive reconciling responses" to Darwin. In the end his own proposals seem a rehash of positions much better developed in his earlier *Creation and the World of Science* (1979) and *Intimations of Reality: Critical Realism in Science and Religion* (1984), according to which (as he puts it here), a "skeptical, qualified realism" in both science and religion makes it possible to say that science and theology are "interacting approaches to the same reality" (p. 122). While in updated form, Peacocke's brief answer to the question "what is it to be a Christian theist in a post-Darwinian world?" appears another somewhat tired (if not tiresome) step in the tradition of Anglican natural theology that runs from *Lux Mundi* (Charles Gore and John R. Illingworth) through William Temple (with some help from Alfred North Whitehead) to Charles Raven.

Vernon Reynolds, lecturer in physical anthropology at Oxford, and Ralph Tanner, formerly a lecturer in comparative sociology at London, write on "The Effects of Religion on Human Biology." They report mildly interesting, if not particularly illuminating, results of their studies of how membership in religious groups affects "individuals' chances of survival and their reproductive success" (p. 133). The authors quantify various religions' attitudes toward reproductivity (including contraception, birth, adoption, abortion, child-

rearing, etc.) in relation to such factors as energy consumption and even gross national product. Unfortunately, they take little note of the diversities within religious taditions or of religious traditions within nations.

Finally, in "The Evolution of Religion," writer and moral philosopher Mary Midgley writes about a variety of those scientists who have made a religion of evolution, including some scientists with their predictions about the future of science. She focuses particular attention on social evolution—though again it is obviously not Darwinian evolutionary theory that is in the background here, as the author well notes, but rather the Spencerian based progressive escalator.

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Notice

Herman J. Saatkamp, Jr., general editor of the critical edition of *The Works of George Santayana*, would appreciate hearing from anyone with relevant first-hand material: letters, personal recollections, photographs, unpublished writings, or information concerning such materials. All material received will be treated with greatest care and promptly returned. Please contact him at Texas A & M University, Philosophy Dept., Att. Santayana Edition, College Station, TX 77843-4237. Tel. (409) 845-2003.