

Reviews

Beyond Objectivism and Relativism: Science, Hermeneutics, and Praxis. By RICHARD J. BERNSTEIN. Philadelphia: University of Pennsylvania Press, 1983. 320 pages. \$10.95 (paper).

There are times when books in philosophy come along to which theologians should pay attention. Richard Bernstein's *Beyond Objectivism and Relativism* is not particularly easy reading, what with long analytical sections on developments in the philosophy of science and rehashes of continental debates over hermeneutics. Yet it is worth the effort because the book addresses one of the most important conceptual impasses of the modern period; that is, the apparent contradiction between two concepts we all affirm: objectivist thinking and the doctrine of relativism. My plan is to summarize briefly what the Haverford College professor has written and then ask what implications it might have for systematic theology.

According to Bernstein, the intellectual crisis of our time is expressed by our inability to work through the apparent opposition between objectivism and relativism. With the term *objectivism* Bernstein refers to our basic conviction that there is or must be some permanent, ahistorical matrix or framework to which we can ultimately appeal in determining the nature of such things as rationality, truth, reality, goodness, or rightness. The primary task of the philosopher, for the objectivist, is to discover just what this permanent framework is and to ground our thinking in it. This is how we avoid skepticism.

The relativist, however, is skeptical regarding the existence of such an overarching or permanent framework. Bernstein defines *relativism* as our basic conviction that when we turn to the examination of fundamental concepts such as truth or reality or norms for what is right and good, we must recognize that all such concepts are relative to a specific context such as a conceptual scheme, theoretical framework, paradigm, form of life, society, or culture. There exists a plurality of contexts, and all of them cannot be reduced to just one of them. We can never escape from the predicament of speaking of "our" and "their" standards of rationality—standards which may be radically incommensurable. For the relativist there is no overarching framework or single metalanguage by which we can adjudicate rationally the competing claims of alternative paradigms of truth or rightness.

The argument rages (p. 9). On the one hand, the relativist accuses the objectivist of mistaking what is at best historically or culturally stable for what is eternal and permanent. The objectivist is said to be a dangerous fraud, because his or her falsely legitimated claims for universal reason result only in a vulgar or sophisticated form of ethnocentrism. On the other hand, the objectivist accuses the relativist of self-contradiction: if the relativist claims that his or her position is universally true, then the relativist position itself is said to transcend the conditions of relativity and, hence, the position undermines itself. The relativist is said to viscerate the standards of rationality. Such arguments are not

[*Zygon*, vol. 22, no. 4 (December 1987).]

© 1987 by the Joint Publication Board of *Zygon*. ISSN 0591-2385

limited to the conversations between philosophers, of course. They belong to almost all of us in almost all walks of life in the modern world. In fact, most of us reading this review right now probably embrace both objectivism and relativism, emphasizing one on one occasion and the other on another; and all the while we sense a certain uneasiness about the tension.

This tension is rooted in an invisible and significant form of anxiety that is a driving force behind modern thinking. Bernstein calls it "Cartesian anxiety." It is the kind of anxiety which arises when the boat loses its mooring and we find ourselves adrift. In the case of the modern mind, we can trace it to René Descartes—the "father of modern philosophy"—and his desire to find the Archimedean point of indubitable knowledge which could serve as a solid foundation for human rationality (pp. 16-20, 36, 60). Should we be unable to locate the Archimedean foundation, feared Descartes, then rationality would sink into irrationality and the result would be madness. Thus, there is more at stake here than simply an epistemological debate. We find ourselves amidst a journey of the soul, the spiritual journey of the Western mind. It is the quest to find some fixed point, some stable rock of knowledge upon which we can secure our lives against the vicissitudes that constantly threaten us.

What the Cartesian anxiety bequeaths to us is a grand and seductive Either/Or: either there is a fixed foundation for our knowledge as the objectivists assume, or, if the relativists are right, we cannot escape the forces of darkness which will envelop us with madness and moral chaos (p. 18). This underlying assumption of the inescapable Either/Or haunts us and hovers in the background, driving the controversies between objectivists and relativists further and further into unnecessary conflict. It is Bernstein's position that this is a false dichotomy. What we need to do, he argues, is to expose and exorcise Cartesianism so that the very opposition between objectivism and relativism loses its plausibility.

How do we get beyond this anxiety and the resulting unnecessary opposition? Bernstein believes the hermeneutical philosophy of Hans-Georg Gadamer holds the key to unlocking the chains of the Cartesian problematic which bind us (p. 165). Other post-empiricist and post-Cartesian scholars have come across parallel discoveries as well—for example, Martin Heidegger, Thomas Kuhn, Paul Feyerabend, Peter Winch, Clifford Geertz, Robert Rorty, Jürgen Habermas, and Hanna Arendt (pp. 107, 175, 225)—but Bernstein spends the bulk of his expository sections analyzing Gadamer's *Truth and Method*. After analyzing and criticizing such Gadamerian themes as hermeneutical understanding, *phronesis* and *praxis*, aesthetic consciousness, play, the fusing of horizons, and linguistic ontology, Bernstein notes that what all these have in common is the recognition of the finitude of human knowing amidst an ongoing and community-dependent historical movement. We are always on the move, but we never arrive. This is the key. "Overcoming the Cartesian Anxiety is learning to live without the idea of the infinite intellect, finality, and absolute knowledge" (p. 166). To say it somewhat differently, we can get beyond objectivism if we simply accept the fact that there "may be nothing—not God, Philosophy, Science, or Poetry—that satisfies our longing for ultimate foundations, for a fixed Archimedean upon which we can secure our thought and action" (p. 230).

We can get beyond relativism as well by simply turning this argument around. Relativism has always been a parasite on objectivism, so once we have exorcised Cartesian objectivism we have simultaneously done the same to relativism. The ever-finite and historical movement of human consciousness

implies that it is never utterly bound to any one standpoint. Hence, we are never prisoners of our own horizon, our own paradigm, or our own cultural context. Meaning is context-dependent, to be sure, but we are not locked up in it. Dialogue and the fusing of horizons enables us to transcend our respective contexts and to grow constantly in the direction of a greater community of understanding.

These hermeneutical insights help us to understand better the nature of rationality and the nature of scientific reasoning. Science comes to be understood as a historically dynamic process in which there are conflicting and competing paradigm theories or research programs. These theories and programs are grounded in the practices of respective social contexts, yet there is an essential openness in the very criteria and norms which guide scientific activity so that knowledge and understanding can grow. Science is an ongoing process of interpretation (pp. 171-72). There is a context-transcending quality to rationality which makes its appearance in the event of dialogue, in the process of communal conversation. In order for dialogue to take place, of course, there must exist a community of conversants.

It is this observation which leads Bernstein to take a startling and dramatic turn from philosophy to ethics, from *theoria* to *praxis*. Going beyond Gadamer, Bernstein borrows from Habermas and advocates taking action in behalf of political community building. What it takes to get us beyond the impasse of objectivism vs. relativism is the actual formation—and, perhaps, the simultaneous recognition—of *human community*. This is not “just a theoretical problem but a practical task” (p. 230). It is Bernstein’s conclusion that in order for us to realize the true nature of human rationality, curiously enough, we must “dedicate ourselves to the practical task of furthering the type of solidarity, participation, and mutual recognition that is founded in dialogical communities” (p. 231).

It is my own judgment that Professor Bernstein has formulated the problem well. Both objectivism and relativism are children of the Enlightenment, and they both belong to the same family despite their sibling rivalry. What I like about the incorporation of *praxis* in his suggested solution to the impasse is that it has a historical and a futuristic thrust. It recognizes that the human reasoning process is dynamic and moving and makes its way through history because actual human beings argue with one another. There is no attempt here to import some eternal or ahistorical *logos* and thereby short circuit the necessity for the hard work of carrying on dialogue. There is no appeal to a mushy mysticism which dissolves disagreements by dubbing them superficial approximations of transcendental truths known only to meditating monks. Instead Bernstein calls us to responsible action, to talking with one another and, while talking with one another, to muster up the best reasons we can for the things we know and believe. This is futuristic in the sense that no one can know in advance for certain which reasons will finally hold sway. All is not decided in advance. We need to be open to what is yet to be revealed.

Despite these kudos, I am still a bit uneasy about asking a theoretical question and then responding with an ethical answer. Gadamer himself, upon whom Bernstein is qualifiedly dependent, seeks to understand human understanding by trying to understand ethical *praxis*. Gadamer concludes that all human understanding is akin to—not identical with—ethical understanding in the sense that it requires personal or contextual appropriation. While this in no way withdraws support for ethical imperatives, it does permit a theoretical

question to be met with a theoretical answer. On this point I believe I prefer the original Gadamer to the Bernstein appropriation of same.

Just what implications for theology might we draw from this philosophical discussion? I would like to suggest two in relation to Christian theology. The first implication is that this discussion helps us recognize the need to get beyond objectivist dogmatics. We who are Christians need to accept the fact that we are finite and that our intellects possess something short of absolute knowledge; that is, we see as St. Paul did only "through a glass darkly" (1 Cor. 13:12). Perhaps the work of J. T. Mueller will provide us with an example of the problem. In his *Christian Dogmatics* (Concordia [1934] 1955) he says that "Christianity is the absolute religion" based upon divinely inspired Holy Scripture which is "the absolute truth" (pp. 25, 27). With this in mind he can proceed to say that "Christian theology in its objective sense, or conceived as doctrine, is nothing more and nothing less than the true and pure presentation of the doctrine of Holy Scripture" (p. 37). Doctrinal theology is objective for Mueller because the faithful theologian offers the "pure presentation" of Scripture by expunging personal "figments and fabrications" and suppressing private "views, opinions, and speculations" (p. 39). What seems to be assumed by Mueller is that the text of Scripture functions like Descartes' Archimedean foundation for knowledge so that we can know the truths of God in a direct and objective way. All the theologian has to do is state what the Bible says just the way the Bible says it. By implication, then, such a thing as interpretation through contextual appropriation is methodologically precluded.

In contrast, what Bernstein and Gadamer seem to saying is that such a tact is pursuing an illusion. All human understanding necessarily includes interpretation and the decisive element in interpretation is appropriation to oneself in one's communal context. Thus, even if we would accept as axiomatic that Scripture is inspired—even if we were to hold that the Holy Spirit whispered the exact words into Matthew's ear—we who read the Bible would still have to interpret it to understand it. We would still have to ask about its meaning for one or another historical context. Even if we were to grant to the biblical symbols the status of Archimedean foundation, we would not be exempt from the ongoing and ever-finite process of appropriating the Bible's meaning to each new communal situation. Theologians will not be out of work until God's kingdom arrives in its fullness and we are able to see "face to face."

Please note that this is not so much a rejection of objective knowledge as it is an attempt to get beyond it by admitting the truth in the relativist notion of context-dependent meaning. Even with this admission, however, we are not left adrift in a sea of normless relativity. We are not locked into our respective contexts of meaning bereft of any means of transcending our situations or adjudicating differences. The insights of hermeneutical philosophy help us to get beyond relativism too. This leads to a second implication for theology: the necessity for getting beyond the very restrictive assumptions regarding context exclusivity so prevalent in many of the liberation theologies of the last decade and a half.

Here Union Seminary theologian James Cone may provide an example of the difficulty. In his *A Black Theology of Liberation* (Lippincott 1970) Cone argues that white people—white theologians included—are incapable of understanding black people. The logic of liberation is incomprehensible to slavemasters! There can be no dialogue. If there is to be any communication at all, whites must deny their whiteness and become black (pp. 12, 33). What Cone seems to be assuming is that the context of black experience can be sealed off from

outside influences, that there exists an impenetrable wall between his own communal context and the context of others. What is meaningful to black Christians is context-exclusive. Of course Cone is not defending garden variety relativism in this work. He is employing the assumptions of relativism in support of sealing off one context of meaning from others.

However, if we wish to get beyond relativism as Bernstein suggests, we must engage actively in the process of community formation. In the case of the separation of black understanding from white understanding, *overcoming* would require the actual formation—through Gadamer's fusion of horizons, perhaps—of a single more comprehensive community, a racially inclusive community. This would be pursued through dialogue, the irony of which is that dialogical conversation forms community while it presupposes it. In other words, the call to get beyond the impasse in which Cone's context-exclusivity leaves us is the call for ethical action, for dedicating ourselves to the practical task of furthering solidarity, participation, and the mutual recognition that is necessary for true community to exist.

TED PETERS

Professor of Systematic Theology
Pacific Lutheran Theological Seminary
Berkeley, California

Reason and the Search for Knowledge: Investigations in the Philosophy of Science. By DUDLEY SHAPER. Dordrecht: D. Reidel Publishing Co., 1984. 438 pages. \$59.50, \$19.95 (paper).

This book is a collection of Dudley Shapere's articles and papers on the nature of the scientific enterprise. Professor Shapere, who specializes in philosophy and the history of science at Wake Forest University, develops a fascinating thesis about the rationality of science. In light of the profound influence of twentieth-century philosophy of science upon the many fields of human knowledge, the book will be of interest to all who ponder the human noetic condition.

The chapters in the book revolve around several themes. One theme is the role of linguistic analysis in philosophy of science, accompanied by a rather Wittgensteinian interest in faithfully elucidating what kind of activity it is that we actually call "scientific" and "rational." Another theme regards the already well-documented weaknesses of both logical empiricism (held by Rudolph Carnap, Moritz Schlick, and their intellectual descendants) and global presuppositionalism (held by Paul Feyerabend and Thomas Kuhn). The former group was fixated on formal logic and the possibility of purely objective observation, the latter on the intricate connections between theory and observation and the imposition of communal commitments on scientific activity.

A third theme, which takes us to the heart of Shapere's presentation, regards the precise kind of rationality which science exhibits. Rejecting the absolutism of the logical empiricists and the relativism of the global presuppositionalists, he develops an approach which is supposedly more faithful to the way science actually conducts its business. He interprets the method of science (and the

[*Zygon*, vol. 22, no. 4 (December 1987).]

© 1987 by the Joint Publication Board of *Zygon*. ISSN 0591-2385

knowledge-seeking enterprise in general) as continually changing in response to new, successful beliefs. Shapere contends that the rationality of science is constituted by the continual sharpening of a clear subject matter and the body of other claims relevant to the subject matter (a total process which he calls "the internalization of considerations" [p. xxiii]).

As science more clearly demarcates its domain of inquiry, science's aims and goals, problems and projects, criteria for well-grounded beliefs, and range of possible solutions can undergo meaningful change. In other words, the very conception of what can count as "rational" or "scientific" evolves in response to new beliefs. In this development, states Shapere, "science aims at becoming, as far as possible, autonomous, self-sufficient, in its organization, description, and treatment of its subject matter" (p. xxiii).

Regardless of the fact that the assembled essays are sometimes slightly redundant, there is much in the book which merits careful discussion and debate. A fundamental issue arises from Shapere's claim that standards of rationality change in response to the changing content of knowledge. The historic conception of scientific method has led others to claim that the method itself is enduring, although specific judgments about when the conditions of the method are satisfied vary as new beliefs are acquired. One wonders whether, under further analysis, a kind of relativism might emerge from Shapere's position.

Another fundamental issue involves the character of the knowledge which science delivers under Shapere's approach. The traditional realist confidence is that science approximates knowledge of "the way things are"—editing and revising, halting and then moving forward again, in a fallible but generally reliable epistemic activity. Not sharing this same confidence, Shapere states: "The views I have presented thus leave open the possibility that we may learn that we cannot learn truth about nature, they also leave open the possibility that we can arrive at knowledge and even truth, in the sense of knowledge about 'the way things are'" (p. xli).

Although strictly a work in the philosophy of science, Shapere's book should be of interest to those in various religious studies. Every religious world view must include conceptions of knowledge, nature, and the knowledge of nature. Along these lines, Shapere's book ventures claims concerning the kind of rationality human beings possess and about the kind of epistemic endeavor science is.

For example, Shapere's book invites discussion of an interesting tension. On the one hand, Shapere treats science as paradigmatically rational, a typical move in philosophy of science which often suggests doubt as to whether other forms of human believing and knowing are equally rational, such as legal explanations and even religious ones. On the other hand, the book also conveys the neo-Wittgensteinian appreciation for the rich and varied contexts of human language, contexts which acquire beliefs in somewhat different ways that are all called "rational." In addition to this apparent tension in the implications of the book, the large issue looms in the background as to whether there is some overriding sense of human rationality by which the different contexts of rationality (scientific, religious, legal, common sense, etc.) can be interpreted.

MICHAEL L. PETERSON
Professor of Philosophy
Asbury College

For Creation's Sake: Preaching, Ecology & Justice. Edited by DIETER T. HESSEL. Philadelphia: Geneva Press, 1985. 142 pages. \$8.95.

This collection of essays originally constituted the main presentations at a February 1984 Institute for Pastors on Eco-Justice Preaching, convened at Stony Point, New York. Dieter Hessel has framed the presentations with a preface and concluding essay, "Preaching For Creation's Sake: A Theological Framework." The seven essays are seen as probing "some of the outmoded assumptions of a dying culture while helping us discern the movement toward distributive justice and environmental renewal" (p. 115).

The lead essay is "Eco-Justice: New Perspective For A Time or Turning" by William E. Gibson, coordinator of the Eco-Justice Project at the Center for Religion, Ethics, and Social Policy, Cornell University. Gibson relates that the Eco-Justice movement grew out of a concern voiced first by Richard Jones and Owen Owens, both of the American Baptist Convention staff, that ecological concerns not be emphasized at the expense of justice nor justice at the expense of ecology. Eco-justice is defined as the "well-being of humankind—all humankind—on a thriving earth . . . respectful of the integrity of natural systems and of the worth of nonhuman creatures" (p. 25). If economics is practiced as usual it is clear that we will destroy the resource capital necessary for continuation. The result will be a contraction of services and products at the same time population demands are increasing. For "biblical people" in this context, "faithfulness consists in a style of life that fits a world imperiled" (p. 28).

"The Biblical Mandate for Eco-Justice Action" by Norman Gottwald of New York Theological Seminary stresses the importance of context. Biblical and contemporary horizons can be fused, but we should be aware of strong obstacles such as our own benefits that we derive from structures of injustice.

James Forbes, professor of homiletics at Union Theological Seminary in New York, makes a plea in "Preaching in the Contemporary World" for preachers to have full awareness of contemporary problems as well as knowledge of the Bible. The task is to present the renewing, hopeful word of God in a context that elicits the inner consent of the listener. A helpful questionnaire developed by Forbes and the planners of this convocation for preachers concerned to integrate eco-justice in their sermons is included at the end of the book.

David Willis, in "Proclaiming Liberation for the Earth's Sake," cautions against the smug confidence that God will not allow humanity to self-destruct. He asserts: "The goodness of creation may involve the cost of allowing one portion of creation which is bent on destroying and using up the rest of the earth to follow its willful madness to the extremity" (p. 69). However, if humanity can reimagine the earth as coequal with humanity as recipients of God's love and concern, then the liberation of the earth from humanity's oppression can begin.

A decidedly different voice is heard in Elizabeth Dodson Gray's "A Critique of Dominion Theology." The sole woman and sole environmentalist participant (who is codirector of the Bolton Institute For A Sustainable Future, Wellesley, Mass.) wonders why among all the eco-justice issues addressed at the conference there was no mention of the women's movement as an eco-justice

[*Zygon*, vol. 22, no. 4 (December 1987).]

© 1987 by the Joint Publication Board of *Zygon*. ISSN 0591-2385

issue. Could it be because our theology, our religion, and our cultural attitudes are shaped by a patriarchal focus, which somehow leaves out of the account women, women's contributions, and women's problems? She does not believe we have an adequate basis for eco-justice preaching in Hebrew and New Testament scriptures as these are based on a hierarchical structure of relationships rather than an interrelated one. How can an ordering of authority and privilege with God at the top, followed by men, women, children, animals, plants, and nature help us achieve an attunement with the created order? To make progress, Gray suggests we must become attuned to nature rather than continue dominion and also know that nature will react to our exploitation and neglect.

Kenneth Cauthen, professor of theology at Colgate-Rochester Divinity School, suggests "Process Theology and Eco-Justice" are well suited to work together. Life is the central focus of process philosophy. Holistic, unitary, synergistic, harmonious, and cooperative are keywords for this way of perceiving. Cauthen makes an appeal for an organic philosophy of life as one of two possibilities pregnant in today's time of turning. The second possibility is a way of living which "honors the intrinsic value of all life and promotes the enjoyment of all life in an organic system of global interdependence" (p. 94). The birth of a new age could come about if we can find ways, through preaching and educating, of uniting biology and politics into concrete policies.

Besides offering an historical record of the development of ecological concerns in the Christian community—particularly the World Council of Churches—Roger Shinn, professor of social ethics at Union Theological Seminary in New York, points to the need for radical developments and solutions in his essay "Eco-Justice Themes in Christian Ethics Since the 1960s." Believing that capitalist and communist ideologies are both bankrupt he invites the concerned community to share in a process of developing new ideas and changes appropriate to the times. He recommends lifestyle changes and structural changes. Such changes could incorporate decentralized local efforts with better organized global interdependencies characterized by greater sharing of the world's resources.

The eco-justice movement within the National Council of Churches is one of the most promising "renewals" or "awakenings" now occurring in the Christian community. This book will be valuable to preachers and religious leaders eager to ground environmental concern in sound theology and biblical understanding. It should also be read by environmentalists who realize the necessity for encouraging the religious community to participate more actively in building a sustainable environment.

The eco-justice emphasis is proenvironment and proeconomic justice for the poor. There is reason to be concerned about the linkage between the two concerns. In the 1985 consensus document "An Environmental Agenda For The Future," endorsed by the "big ten" environmental groups, concern for the poor in the United States and elsewhere was barely alluded to and not detailed anywhere. Eco-justice voices fill a gap. What does not seem to have been adequately addressed in *For Creation's Sake* is strengthening humanity's solidarity with the nonhuman creation. A more equitable balance of ecologists and theologians might have helped. Also actual facts about environmental decline and abuse are missing. The inclusion in the book would have helped ground these deliberations in vivid, realistic perceptions of our plight.

In view of the actual facts of humanity's stewardship of the creation the definition of eco-justice seems pallid. One longs for language that speaks of an

abandonment of dominion ideology and a new birth of devotion to life and to the earth.

Some critical questions emerge: first, why have the authors neglected to discuss the impact of ballooning military spending on environmental funding? Available research indicates that globally \$200-300 billion per year is needed to fund sustainability programs and yet the actual funding is in the 15 percent range; this is at a time when military spending globally has risen in this decade from \$300 billion to over \$800 billion per year. Misapplication of human resources on this grand a scale should be a part of serious discussions on ecology and justice. Second, what are the implications of individual life-style changes being the focus of eco-justice? Do the essays reflect that the eco-justice movement is calling for a new perfectionist ethic in order to achieve sustainability? Not exactly. However, to focus on individual life-style without at the same time being specific about a reordering of priorities (Roger Shinn's general call is not enough) seems to be losing an opportunity to be balanced. Third, what impact and follow-up, if any, will the environmentalist, feminist critique have? A good heart-to-heart discussion between Gray and others would have been an inspiration and help to many. Maybe this could be included in the next book.

As an opening wedge into theological discussion of the future the book performs a useful service. Further work from this group can be expected and will be welcome.

CARL J. CASEBOLT

Codirector of the Project on the Environment
and the Christian Creation Tradition
Center for Ethics and Social Policy
Graduate Theological Union, Berkeley

Science and Creationism. Edited by ASHLEY MONTAGU. New York: Oxford University Press, 1984. 416 pages. \$9.95 (paper).

In March of 1981 the governor of Arkansas signed into law the "Balanced Treatment for Creation Science and Evolution Science Act." Within a short time a wide coalition of religious (Protestant, Roman Catholic, and Jewish) and scientific leaders filed suit, claiming that it represented an establishment of religion. For ten days (7-17 December) the so-called creation science had its day in court; it suffered a complete and total defeat. In many ways this volume of twenty-one articles is a response to that trial. Two articles (Roger Lewin, "A Tale with Many Connections"; Gene Lyons, "Repealing the Enlightenment") describe and comment on the history of the case. One of the witnesses, Michael Ruse, presents "A Philosopher's Day in Court" and the brilliant decision of Judge William Overton is presented in full.

It is a truism of communication that whoever gets to the media first defines the issues; creationism is a prime example. It presents itself as science and wants to be treated as science, and so scientists respond. As the editor, Ashley Montagu, observes, "since the creationists have claimed their beliefs to be scientific, and have at times stated that evolution is unscientific . . . it is necessary to set the record straight . . ." (p. 7). In this collection scientists from the

[*Zygon*, vol. 22, no. 4 (December 1987).]

© 1987 by the Joint Publication Board of *Zygon*. ISSN 0591-2385

United States, Canada, and Great Britain attempt to do just that, discussing, at times in great detail (e.g., Sidney W. Fox, "Creationism and Evolutionary Protobiogenesis"), the nature of scientific theory and fact, the evidence for evolution, and the abuses of creationism. The strength of the book obviously falls in these areas.

The excellent discussion of science is also, unfortunately, a weakness because creationism is not really science but religion; it is religious thinking that is particularly rigid and fundamentalistic. This is duly noted in many if not most of the articles, but only one author attempts to explore fundamentalist thinking at any depth (George Marsden, also an Arkansas witness, "Understanding Fundamentalist Views of Science"), arguing that it espouses a seventeenth to eighteenth-century Baconianism through which it filters not only science (p. 97) but also the Bible (pp. 107, 110-11). While the larger question of the relationship between science and religion is at times alluded to (e.g., Kenneth Miller, "Scientific Creationism versus Evolution: The Mislabeled Debate," pp. 58-59), an in-depth discussion is lacking.

One might reasonably object that the purpose of the collection, as its title indicates, is *science* and creationism; the religion question, while valid, lies outside its purview. Fair enough, except for the fact that some of the articles do dabble in religion and do it rather poorly (Isaac Asimov, "The 'Threat' of Creationism"; L. Beverly Halstead, "Evolution—The Fossils say Yes!"). Not only do they fail to clarify the issues involved, but they even conspire in the confusion by accepting the creationist understanding of them. Some questions which need to be addressed might include: How do mainstream Christianity and Judaism (does it really help to call them "quite liberal"? [p. 190]), approach and understand the Bible? What does "myth" mean and how is it used by religious scholars (pp. 186, 191)? What is meant by the rather crucial concept of "creation"? Does science really differ from religion because it is open to doubt (p. 243)? To take just the last question, being open to questioning, to paradox, and to doubt is not opposed to religious faith but is an essential element within it; and this is firmly rooted in the Bible itself (see Robert Davidson, *The Courage to Doubt*, London: SCM Press, 1983). In another article Kenneth Boulding describes a move "Toward an Evolutionary Theology." While it is rather more engaging, it too is a bit weak on theology and Bible (e.g., pp. 145-46, 151). His point, however, regarding how scientists should recognize their limits and speak more humbly is well made and well worth pondering.

This collection is helpful in gathering in one place a high-level discussion of scientific issues often raised and obfuscated by creationism. The heart of the matter does not, however, lie here; it lies in the question of what religion is and how it relates to science (and vice versa). Here the volume is of some but not much help (e.g., Miller, Marsden). For this side of the problem, one would be better served by Roland Mushat Frye, ed., *Is God a Creationist?* (New York: Charles Scribner's Sons, 1983); Langdon Gilkey (also a witness at the Arkansas trial), *Creationism on Trial* (Minneapolis: Winston Press, 1985); and E. McMullin, ed., *Evolution and Creation* (Notre Dame: Notre Dame Univ. Press, 1986).

MICHAEL D. GUINAN, O.F.M.
 Professor of Old Testament and Semitic Languages
 Franciscan School of Theology
 Graduate Theological Union