Reviews

The Justification of Science and the Rationality of Religious Belief. By MICHAEL C. BANNER. Oxford: Clarendon Press, 1990. 196 pages. $55.00.

In this book Michael Banner, Dean of Peterhouse College, Cambridge, and past speaker at the Center for Theology and the Natural Sciences (CTNS) in Berkeley, defends the controversial thesis that religious belief functions in a manner essentially the same as explanations in natural science. None of the traditional attempts to separate them—e.g., science offers hypothetical explanations held tentatively and critically, whereas religious faith consists in a basic trust in God as a matter of unquestioning commitment—stands up to closer examination. His central claim is that both scientific and religious beliefs can be reconstructed as inferences to the best explanation (IBE); as such, both are rational (and for similar reasons). Hence his title: the idea of IBE provides the justification for science, and IBE guarantees the rationality of religious belief. Whether or not readers are in the end convinced by this controversial conclusion, they will appreciate Banner's clear expositions and the careful marshaling of arguments that he provides along the way.

Even this short description is enough to locate Banner's book within a growing genre of works on the methodology of science and the nature of religious explanations: A. O'Hear's *Experience, Explanation and Faith* (London: RKP, 1984), E. L. Schoen's *Religious Explanations: A Model from the Sciences* (Durham, N.C.: Duke Univ. Press, 1985), Philip Clayton, *Explanation from Physics to Theology: An Essay in Rationality and Religion* (New Haven, Conn.: Yale Univ. Press, 1989), Nancey Murphy, *Theology in the Age of Scientific Reasoning* (Ithaca: Cornell Univ. Press, 1990), and Wentzel van Huyssteen, *Theology and the Justification of Faith: Constructing Theories in Systematic Theology* (Grand Rapids: Eerdmans, 1989), to name just a few. One might fault Banner for not acknowledging this genre and for not citing these authors since, as *Zygon* readers will recognize, his essay is a contribution to an ongoing project. In a moment I will attempt to locate his book within this discussion.

In Part I ("The Justification of Science") Banner paints a picture of science that is influenced very strongly by T. S. Kuhn's *Structure of Scientific Revolutions* (Univ. of Chicago Press, 2d ed., 1970). Science is not the objective pursuit, independent of questions of commitment, that positivism had claimed. Theory change takes place via "revolutions," and theoretical criteria are best understood as the "values" of the scientific community (cf. 180f.). Yet, somewhat surprisingly, Banner still wants to preserve "rational realism," the doctrine that we have reason to believe our best scientific theories are true (chap. 3). Given the severity of the difficulties involved in linking apparent success and truth (see, for example, 54), this

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is probably the weakest part of the book's argument. Banner seems to have painted himself into a corner, ascribing to a rather conventionalist theory of science such as Kuhn's and yet wishing to preserve a strong truth claim (not only do we know what it is for scientific theories to be True, but we can know, roughly, which ones are). Further, he presupposes the false dichotomy "either no truth in science, or rational realism," thereby ignoring the attractive view that we can only use the predicate *true* "internally," from within a theory or conceptual scheme. (It is telling that Banner covers Hilary Putnam's causal realism but ignores his highly influential internal realism.) Finally, the concept of "truth-likeness" or verisimilitude is a difficult one, and Banner later admits (179n49) that he cannot solve the problems associated with it. Since he gives IBE such a large place in his overall argument, a chapter on IBE in science would have increased the coherence of the book as a whole.

The argument in part 2 ("The Rationality of Religious Belief") is more compelling. Banner offers an excellent defense of an "intellectualist" rather than (or better: in addition to) an expressive theory of religious belief (chap. 4). His presentations of the positions of the expressivists (Wittgenstein, D. Z. Phillips, Peter Winch) are quite clear and his counterexamples to them telling; presumably it is his real appreciation of the strengths of expressivist treatments of religion which renders his treatment balanced and informative.

Nothing in the nature of faith, according to Banner, excludes the search for justified explanations in religion (chap. 5). We can understand theism as an explanation, albeit of a very large (virtually unlimited) domain of data, and sufficient criteria can be obtained such that it makes sense to speak of theism as the "best" explanation of these data (chap. 6). (Except in the last chapter, Banner does not actually do apologetics; one might view his book as a methodological prolegomenon to an apologist such as Richard Swinburne.) Banner concludes the book with a chapter on the problem of evil, which is meant to show that we *can* rationally evaluate the pros and cons of theism as an explanation—even though doing so reveals the crucial role of mystery within theism (178ff.).

Three general observations about the book.

1. IBE, as I noted at the beginning, is Banner's central position, and it does make for a fruitful comparison of religion and science (although he admits that "I have no general theory of explanation to offer" [125]). Banner does not enter into the controversy regarding how the word *best* in IBE is to be defined (see Peter Lipton's monograph on IBE, forthcoming in 1991 from Routledge & Kegan Paul), though he seems tacitly to gloss *best* as *most likely* (e.g. 62). Lakatos's research program theory of rationality, which Banner dismisses rather quickly, would have provided a helpful ally here. For to defend rational realism and avoid Kuhn's or Laudan's skepticism about the truth of scientific explanations, Banner must provide sufficient criteria for *better* explanations; yet doing so is difficult if one rejects the criteriologists in the debate (such as Popper and Lakatos) in favor of Kuhnian paradigms.

2. Banner's case would also be strengthened by supplementing his IBE theory of explanation with an increased focus on the role of explanations in lending *meaning* to a domain of data. He verges on this function at numerous points, as when he speaks of "that pattern in experience" which suggests

the existence of God (185). However, stressing the semantic role of explanations would provide a framework that would help make sense of a number of Banner's concluding claims, e.g., that "theism has a resonance with reality, a fit with experience" (182), or that arguments for the compatibility of evil and God must be supplemented by "sympathy and understanding" of the sort one acquires through firsthand experience or by studying the lives of saints (184). Banner's reticence to link the explanatory task with meaningfulness may explain why he puts aside questions of the *coherence* of theistic explanations and chooses not to discuss this criterion (131). Doing so would have helped his case. Moreover, he employs coherence after all, as when he follows Newton-Smith in using as a criterion whether something provides "a unified explanation of a diverse range of facts not previously known to be connected" (139)—which is exactly the sort of thing coherence theorists have stressed in their expositions.

One can only speculate how a more explicit examination of explanation and coherence would affect Banner's dismissal of the internalist (as opposed to rational realist) positions on the status of science and theology. I suggest that it would make his overall position more consistent. For to interpret the truth of an explanation in coherential terms, relative to the paradigm or conceptual scheme in which it is expressed, fits much better with the understanding of scientific criteria that Banner has taken over from McMullin: "the appraisal of theory is in important respects closer in structure to value judgement than it is to the rule-governed inference that the classic tradition in the philosophy of science took for granted" (180). Banner explicitly rejects Kuhn's internalism (41); shouldn't he then reject McMullin's internalist view of scientific criteria as well?

3. I noted above that Banner concludes with the mystery inherent in theism. But are religious mysteries really the same as the puzzles and anomalies in science (cf. Kuhn) with which he compares them (180f.)? Either a similar sort of mystery lies at the core of science, or he has discovered an important *dis*analogy with science. If the former, it should be built into his understanding of science from the start; if the latter, then Banner has stumbled upon a crucial limit to comparisons between religion and science based upon IBE. One must wonder, in the brief discussion of the matter, whether religious mystery is really done justice by Banner's concluding formula, "the greater a theory's explanatory power and plausibility, the more will its failure to resolve the mysteries associated with it be tolerated" (181).

Now for the comparisons. If one must conclude that Banner is too optimistic in his realist conclusions about science, he certainly is aware of the difficulties; the *problems* with realism emerge perhaps more clearly here than in van Huyssteen's discussion of the same issues (though they agree on the major conclusions). Banner's arguments against O'Hear and Phillips, two of the authors whom he does cite, are effective and well taken (e.g. 117). Like Nancey Murphy, Banner wishes to draw parallels directly between *natural* science and religion or theology; and like her, he interprets Imre Lakatos as demanding that a successful explanation must make successful predictions. (Neither of them seems interested in revising Popper and Lakatos in a less empiricist direction.) However, whereas Banner *abandons* the reliance on predictions (and hence Lakatos) as hopeless for religion ("in the nature of the case, [theism's] observational

success is retrospective," 135), Murphy argues that the predictive challenge *can* be met (see her *Theology in the Age of Scientific Reasoning* [Cornell Univ. Press, 1990], as well as the debate in the *Bulletin of the Center for Theology and the Natural Sciences* 11/1 [Winter 1991], 29ff.).

Generally, the book reflects a high level of scholarship. I have only a few concerns: One often finds a reliance on secondary sources when a direct presentation of the position in question is called for. Among the thinkers treated at second hand are Newman (100f.), W. Whewell (139n49), Davidson (122f.), and Putnam (38n12). The book's underlying philosophy of science, basically that of Kuhn, is insufficiently nuanced to provide the sort of platform that Banner needs for a theory of theism as explanation. (And certainly it is no answer to say that our being dissatisfied with Kuhn's vagueness "merely expresses a hankering after the certainties of positivism"! [181]) For instance, some major positions are given short shrift: No mention is made of Popper's revisions of his position, and several detailed criticisms are directed at positions which he admits are no longer held by the authors in question (on Lakatos, 132ff. but cf. 137; on MacIntyre, 112ff. but cf. 116). The argument is often presented negatively, via refutations of opposing figures, in places where the reader is looking for a positive statement of Banner's own position. For example, the long discussion in chapter 6 concludes with the surprisingly weak claim, "It seems, then, that there could be a significant analogy between the justification of science and of religious belief" (153); and the following chapter, rather than moving beyond this "could be" and making the analogy explicit, contents itself with a detailed treatment of the problem of evil which basically follows the lead of John Hick's *Evil and the God of Love* (Harper and Row 1966) and which leaves Banner with no time for his broader theory. The Afterword goes little further (cf. 183).

Not that the appeal to other authors should be taken as a weakness. This is especially true of Banner's allegiance with Basil Mitchell. Banner has managed to think with, and beyond, Mitchell's foundational contributions to the religion/science discussion. I consider this a great service to the discussion: Mitchell's influence is disproportionate to his insight, and it is fascinating to see his thought used as the platform for a creative treatment of religious explanation.

The book is strongly recommended for those, specialists or not, who are interested in the parallels between scientific theories and theism understood as an inference to the best explanation.

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Theology and the Justification of Faith. By WENTZEL VAN HUYSSTEEN. Grand Rapids: Wm. B. Eerdmans Publishing Co., 1989. 197 pages. $18.95 (paper).

Explanation from Physics to Theology. By PHILIP CLAYTON. New Haven: Yale University Press, 1989. 230 pages. $26.50.

Wentzel van Huyssteen is McCord Professor of Theology and Science at Princeton Theological Seminary. Philip Clayton is Assistant Professor of Philosophy at California State University, Sonoma. Their books are about the credibility of Christian convictions and, more specifically, the credibility of Christian theology in scientifically oriented societies. Another recently published book in this genre dealing with issues that are central to *Zygon*'s stated aims is Nancey Murphy's *Theology in the Age of Scientific Reasoning.*

Both van Huyssteen and Clayton approach the topic of the credibility of Christian theology in light of the fact that it is practiced and taught in otherwise secular universities. Their work addresses the question of whether Christian theology belongs in this academic setting and, if so, as what sort of discipline. Both argue that Christian theology indeed does belong in the university setting and as a scientific discipline rather than as, for example, a literary discipline. In doing so they distinguish themselves from two schools of thought neither of which would have theology in secular universities at all: secularists who take theology to be a pseudodiscipline in any case and Christian separatists who take it to have no business other than that of service to the church.

Van Huyssteen and Clayton conduct this discussion in terms of the connection of human practices to the world. Viewed in this way, their question is whether the practice of Christian theology enjoys a connection to the world that is anything like that of the sciences or whether, instead, it is disconnected from the world in a way that makes it an exercise in fiction at best.

Their central contention in this regard is that according to our best knowledge about the connection of human practices to the world there is good reason to conclude that Christian theology is as well connected as theoretical physics and any of the social sciences. It is this conclusion that, according to van Huyssteen and Clayton, legitimates locating theology in a university setting as a scientific discipline.

Both authors make this case by recounting changes that have occurred in epistemology and philosophy of science during this century. Broadly speaking, the changes they describe are from more atomistic empiricist to more holistic pragmatist accounts of the connection of scientific theories and explanations, in particular, to the world. Van Huyssteen and Clayton contend that this change has created a more hospitable climate in which to make a case both for the realism of Christian convictions in general and for the scientific status of theology as an academic discipline in particular.

Van Huyssteen tells this story in three parts. In Part I of his book (*Systematic Theology and Philosophy of Science*) he describes the logical positivism of the Vienna Circle (chap. 1) and the development from that of

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the so-called standard conception of science; the theology of Karl Barth as a reaction to this standard conception (chap. 2); the critical rationalism of Karl Popper (chap. 3) and its use by William W. Bartley to accuse neo-orthodox Protestant theologians of a retreat to irrationalism (chap. 4); and Thomas Kuhn's "historicist turning point" (chap. 5).

In Part II ("The Construction of Theories in Systematic Theology"), van Huyssteen discusses the work of two theologians who explicitly take the philosophy of science into account in their work: Wolfhart Pannenberg (chap. 6) and Gerhard Sauter (chap. 7).

In Part III ("Systematic Theology: A Critical-Realist Perspective"), van Huyssteen utilizes current critical realist philosophy of science to make his own case for the scientific status of theology; see the discussions in "The Nature of Theological Statements" (chap. 8) and "Criteria for a Critical-Realist Model of Rationality in Systematic Theology" (chap. 9).

Clayton tells his version of this story in terms of the shift from formalism to contextualism in philosophy of science. After an introduction to the topic in "Explanation in Science and Religion" (chap. 1), he describes changes in the philosophy of natural science from the formalism of Carl Hempel to the contextualism of Kuhn to the mediation of those two extreme positions in the work of Imre Lakatos (chap. 2).

Unlike van Huyssteen, Clayton extends his account of these changes in philosophy of science into the realm of the social sciences (chap. 3) with a discussion of formalists who treat the social sciences no differently from the natural sciences; antipositivists following Wilhelm Dilthey who treat them differently given their human subject matter; and the work of Jürgen Habermas as a kind of mediating position between these two extremes.

After a discussion of philosophical explanations (chap. 4), Clayton turns to religious beliefs in general (chap. 5) and theological formulations in particular (chap. 6). He argues explicitly in subsections of this last chapter, titled respectively "Beyond Foundationalism" and "Theology among the Academic Disciplines," that changes in accounts of the connection of scientific practices to the world from the atomism of logical empiricism to the holism of Kuhn and Lakatos, among others, have dramatically improved the prospects for treating theology as a legitimately scientific discipline in the university setting, with all of the rights and responsibilities pertaining thereto.

There is considerable irony in van Huyssteen's and Clayton's work. By their own accounts, the opportunity to reopen the question of the scientific status of theology is a function of the revival of holistic accounts of the connection of religious practices to the world. Yet when it comes down to arguing that theology is indeed a science, their enthusiasm for holism wavers. Both van Huyssteen and Clayton make their respective cases for theology in terms of theories that purport to distinguish within an entire array of practices the privileged subset of those practices that cements a culture's connection to the real world. Theirs, as it turns out, is a half-hearted holism.

In logical empiricism the difference between scientific and literary disciplines is a function of an epistemological factor. Experiential contents are the place where the world's impact on us is the least distorted and thus where our intellectual responses are most likely to correspond to the way the world in fact is. Experiential constituents therefore qualify to be both the

sources of the meaning of any meaningful sentence and the sources of evidence for the truth or falsity of any sentence which is a question of matters of fact.

It is in terms of these epistemological building blocks that the familiar logical empiricist distinctions are made. Linguistic practices divide into direct observational responses to experiential contents and indirect responses to them via the original observations. Linguistic practices divide further into the assertion of analytic sentences whose truth or falsity is a function only of the meanings that are generated from experiential contents and the assertion of synthetic sentences whose truth or falsity is a function of experiential content itself.

The upshot of logical empiricism is that the unit in virtue of which our practices are connected to the world is the individual observational sentence that directly expresses some experiential content. Willard van Orman Quine, Donald Davidson, and Richard Rorty have made holistic criticism of logical empiricism as a philosophy of science and as a philosophy of culture. In their accounts the unit of empirical inquiry is an entire array of sentences and not a privileged observational subset thereof.

These criticisms were made from the point of view of a field linguist engaged in translating and/or interpreting linguistic behavior and developing an empirical theory of language in the process. Quine argued that the difference between sentences that speakers assent to because of their meaning and sentences that are assented to because of some real matter of fact is of no use in such an enterprise. Davidson argued that neither is the difference between sentences that speakers assent to in virtue of their direct tie to experiential content and sentences that are assented to in virtue of their ties with other sentences.

Davidson retained only a distinction between occasion sentences to which speakers' assent varies with observable changes in their environment and sentences that speakers continue to assent to throughout such changes. But this distinction is not an epistemologically significant one. It does not segregate the sentences that alone tie linguistic behavior to observable reality from all the rest of the sentences that speakers happen to assent to.

What it does is set in motion the field linguist's project of figuring out what people mean by the marks and noises they make and what they believe about the world through providing relatively easy cases in which to determine what it is that causes speakers to assent to sentences. Davidson's interpreter begins to figure out both the meaning of linguistic behavior and the beliefs it simultaneously expresses by identifying assent behavior, correlating it with environmental factors that cause this behavior, and nothing else.

Specifically, this interpretative exercise does not require the use of an extracausal word-to-world connection to distinguish between two different sorts of legitimacy belonging to the sentences that speakers assent to. There is no need to distinguish those sentences that stand in this connection to the world and thus are capable of real, extralinguistic truth or falsity from those that do not stand in this connection to the world and thus are capable at best of only intralinguistic truth or falsity.

If we think of scientists as language users whose linguistic behavior a field linguist is engaged in figuring out, then on this approach scientists interact causally with the world by means of an entire array of sentences,

not just or primarily by means of the observational subset that is distinguished from the rest of the array by its special epistemological connection to the world.

Rorty takes Davidson's holism to a cultural level. If we think of members of a society, our own for example, as language users whose linguistic behavior a field linguist is engaged in figuring out, then such groups of people interact causally with the world by means of an entire array of linguistic practices, not just or primarily the observational subset that is distinguished from the rest of language by its special epistemological connection to the world.

The unit of empirical inquiry according to Rorty is an entire culture, an array of practices that form a "seamless web" that gets differentiated sociologically by how speakers require one another to back up what they say and how they correct one another, among other things. But with no further extracausal distinction to be made between practices in terms of their ties to experiential content, there is not that much difference so far as empirical inquiry is concerned between, say, scientific practices and literary ones.

This is exactly the holistic climate that van Huyssteen and Clayton find to be hospitable to theology. There is no invidious distinction to be made in terms of the epistemological building blocks of logical empiricism between those portions of culture whose activities are appropriately in touch with the real world and those whose activities are not thus privileged. There is not that much difference so far as empirical inquiry is concerned between what goes on in churches and theology classrooms on the one hand and in high-energy physics labs and classrooms on the other.

Thus van Huyssteen cites Kuhn and Larry Laudan approvingly as advocates of "a much wider concept of rationality" (60) that makes for a less rigid demarcation between problem solving in the sciences and in theology (66 and 173). And Clayton cites the contextualization of problem-solving rationality, which makes it incapable of formal definition in terms of a logic of testing against experiential contents (44 – 48), as having "led to an entirely new approach to redeeming the validity of claims of theology" (151). It does so by "softening" the differences between the explanatory activities that occur in various scientific and religious contexts, respectively.

If this holistic approach to our linguistic interactions with the world were maintained, then questions about the role of theology in universities would not be ones that the philosopher is especially qualified to answer based on epistemological information about the experiential constituents that confer extralinguistic legitimacy on certain words we use. It would be a practical, sociological question. As such it would get discussed with the argument that theology has as much business in the university as, for example, animal husbandry; or that it is practiced at an intellectual level at least the caliber of that involved in labor studies; or that it should be left out because it is too difficult to decide which theology should be taught in universities that are attended by religiously diverse populations.

Unfortunately, neither van Huyssteen nor Clayton is prepared to let it go at that. Van Huyssteen notes (12) that "the presence of theological faculties and departments of Biblical Studies at our universities derives mainly from a factual situation born of society's pious regard for the convictions of our major ecclesiastical communities—a situation that would pose

a serious threat to the survival of such departments and faculties, should there be a change in society's sentiments and convictions."

Both authors want to remove the question of the academic status of theology from the vagaries of social practice. In order to do so, they revert to the project of isolating from the rest of our cultural practices those that, in virtue of their special connection to something beyond them, are more than just problem solvers that happen to work for us. Neither makes this distinction in terms of the epistemological building blocks of logical empiricism. But they make it in other terms nonetheless. And they take the sciences to be the prime examples of this subset of practices.

Once again, questions about the status of theology in the university become ones that the philosopher is especially qualified to answer. It becomes the job of the apologist for the academic respectability of theology to show that it is rather like the scientific portion of our culture, which is known to be in touch with something extrahuman that makes it true. This likeness establishes that the practice of theology also enjoys that special connection to the world in virtue of which some of our words are made to be more than just our words.

So much for van Huyssteen's and Clayton's holism. In order to make the desired distinction, Clayton posits the belief that the ideally coherent explanation will also correspond to the way the world really is as the regulative principle that is operative in all genuinely explanatory disciplines. It is the presence or absence of this methodological ideal that, according to him, distinguishes the explanations of the world offered by scientific disciplines that are capable of real truth from the "construals" offered by literary disciplines that are capable only of "intratextual" truth (168–79).

In order to make the desired distinction, van Huyssteen postulates correspondence between the structure of words in certain scientific theories and the structure of the world as the thing that makes the history of theoretical physics something more than an inexplicable miracle. It is the presence or absence of this semantic connection that, according to him, distinguishes sentences that are worthy of being taken "seriously but not literally" as depictions of reality (even though they happen to be about unobservables like quarks and God [143–63]) from other sentences about phlogiston and the tooth fairy, for example, that are not so worthy because they lack this connection.

The problem is not just that van Huyssteen and Clayton, in their anxiety to make a case for the intellectual respectability of theology, backslide from the holism they initially took to be an ally in that enterprise. Inconsistency aside, their use of the postulate of extracausal correspondence between words and the world on behalf of theology is, in my judgment, a serious tactical error.

According to that postulate there are special places in our cultural practices where the world is getting us to talk about it as it in fact is. Scientific realists point to theoretical physics as the best example of one of those special places, citing as evidence the growth over time in predictive power and control that has occurred there, among other things. From this viewpoint, it is not just any old kind of successful practice that calls for explanation in terms of correspondence to reality. It is a quite specific sort of progress.

When van Huyssteen tries to extrapolate that scientific realist argument to religion, his examples are pitiful by comparison. He notes (191) that in South Africa these days heresy is no longer considered to be a matter of which theory of Christ's nature one subscribes to. It is, rather, a matter of "whether apartheid, as a political system, is essentially heretical because it discredits and negates salvation through Jesus Christ and thus directly jeopardizes the truth of Christianity" (191).

However much we may applaud this reported change in South African Christian discussions of heresy, it is hardly one that calls for explanation in terms of the postulate of correspondence to reality. Unlike the history of physics in our culture, what calls for explanation in the case of religion is persistence, not progress in predictive power and control. It is not at all obvious that the postulate of the correspondence of words to reality is needed in order to explain that persistence.

In Clayton's view, the special places in our cultural practices where the world is getting us to talk about it in its own preferred way are those "hard" disciplines that are genuinely explanatory. These are distinguished from the "soft" merely "intratextual" disciplines by the fact that the former, but not the latter, are being molded by, and are moving in the direction of, the regulative belief that the ideally coherent explanation will also correspond to the way the world in fact is (178).

Let's assume, as I sincerely doubt, that we have the faintest idea of what the ideally coherent explanation is, its contours, what is in it, and thus what movement in its direction would be like. Unfortunately, theology comes out looking bad when compared with physics in this respect. The proliferation of conflicting sets of theological beliefs in Western history alone exhibits anything but movement in that, ideally coherent, direction. The growth of conflicting forms of Judaism, Catholicism, and Protestantism in our history exhibits, if anything, that the world takes a hands-off policy when it comes to how it gets talked about theologically.

Compared with its relative strictness when it comes to physics, the world exhibits an inordinate fondness for theologies. It does not appear to be prompting us in any particular direction in that respect. This is exactly the opposite of what van Huyssteen and Clayton would have us expect when they apply their respective versions of the postulate of correspondence to reality to the practice of theology.

Realists of various stripes, like van Huyssteen and Clayton, and pragmatists like myself agree that the world has a say in how it gets talked about by human language users. We differ on how that occurs: by the world's forming representations in our language that are more or less accurate models of it; or by the world's operating selectively on our linguistic behavior, shaping it into rules of action that are more or less useful to us in coping with it.

The issue, then, is not whether our words are in touch with reality and, if so, where that occurs. The issue is whether in addition to being in causal interaction with the environment, our linguistic behavior is also in the representational relation of corresponding to it in certain respects. And further, the issue is whether there is anything to be gained from knowledge about the connection of our words to the world that would be of use in deciding about such things as the academic respectability and status of theology.

My contention is that knowing about the causal interactions of our linguistic behavior with the environment is quite useless for this purpose. When it comes down to questions of this sort about theology, or anything else for that matter, we are left to our "intratextual" devices. This is not because we are out of touch with reality. It is because there are no normative lessons to be learned from the touch with reality that we have about whether, where, and how theology should be practiced.

I submit that questions about whether theology is more like physics or literature are, broadly speaking, moral questions about what kind of people we want to be and what kind of culture we want to have. It is a matter of where to pin our hopes for salvation.

People like van Huyssteen and Clayton who want to assimilate talk about God to those scientific practices in which we get explanations and who hold out for similar sorts of "experimental" confirmation in both cases believe that we should continue as we have in the past to pin our hopes for salvation on our connection with superhuman powers.

People like John Dewey and Rorty who want to assimilate talk about God to those aesthetic, literary practices in which we get new selves by redescription believe that we should break with the past and transfer our hopes for salvation to the creative power of human language use.

We are not without resources when it comes to taking sides on this question. People and societies who have claimed to live as the earthly representatives of higher powers, personal or impersonal, idealistic or materialist, have left a track record that is spotty at best. This record is troubling enough that those of us who favor something closer to the alternative of self-reliance can at least be understood for so doing. We are not deceiving ourselves. Nor are we denying the obvious: that all sorts of people have thought they were connected with higher powers, or that all sorts of people have thought stable human life depends on this very belief.

Our claim is that this belief has caused more trouble than it is worth. This contention surely is not easily or lightly dismissed. And we are projecting life without this belief. Time will tell how the world treats this projected way of life. Epistemology and successor disciplines like philosophy of science and methodology have nothing to say about that.

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Theology in the Age of Scientific Reasoning. By NANCEY MURPHY. Ithaca and London: Cornell Univ. Press, 1990. 215 pages. $26.95.

For those of us working in philosophical theology or in the closely related emerging discipline of theology and science, the publication of Nancey Murphy's book is indeed a very significant event. In this highly original book, she not only convincingly demonstrates that both theologians and

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philosophers of religion need a thorough knowledge of the cognitive aspects of religion, but also shows us why contemporary philosophy of science has become the most important methodological link in the current theology and science debate. In doing this she vindicates her claim that theology, in its scientific reflection on religious experience, can creatively come forward with novel facts. Finally, her own creative interpretation of the Lakatosian model for theology in itself becomes a novel and exciting postmodern paradigm for dealing with the troubled relationship between theology and science.

True to her postmodern sensibilities, Murphy espouses a holistic epistemology that transcends the traditional boundaries between theology, philosophical theology, and philosophy of religion, and eventually—although she never explicitly deals with the problem of rationality as such—centers on the problem of assessing the theologian's claims to rationality. It is important to note that Murphy wants to avoid the fideism of some forms of postmodern "narrative theologies." She states that in this age of agnosticism and atheism the Christian community has an obligation to provide rational support for its belief in God "in accord with the going standards of evidence" (192). What is meant by "rational support" and whether her model lives up to this claim will eventually have to be evaluated carefully. This will then determine the validity and promising nature of the program that is presented to us in this volume.

In this book, then, Nancey Murphy sets out to dispel skepticism regarding Christian belief, so widespread since Hume and the rise of modern science. She argues for the rationality of Christian belief by carefully demonstrating the similarities of theological reasoning to scientific reasoning as revealed by contemporary philosophy of science. She concludes that a nonfoundationalist approach to theology guided by current philosophy of science is indeed possible, and she justifies this by drawing on new historicist accounts of science, particularly that of Imre Lakatos. According to Lakatos, scientists work within a research program consisting of a fixed core theory and a series of changing auxiliary hypotheses that allow for prediction and the explanation of novel facts. Murphy argues that similar patterns of probable reasoning can be used to justify theological claims. She then sets out to support this thesis through historical analyses of theological research programs such as those of Wolfhart Pannenberg and of the Roman Catholic modernists, who in her view already come close to satisfying the philosophical demands of Lakatos's methodology.

In what is perhaps the most original part of the book, Murphy develops a characterization and analysis of what can be regarded as "theological data." Drawing on the works of Jonathan Edwards and Ignatius Loyola, she develops her crucial and thoroughly postmodern idea of communal discernment as possibly the most typical of Christian epistemic practices. This is followed by a final chapter in which she creatively develops a model for a postmodern Lakatosian theology.

However, this book also raises some serious questions that merit ongoing discussion. Within the confines of this review I would like to highlight the following critical questions.

If we should accept a definition of rationality as "intersubjective criticizability" (cf. Philip Clayton in his recent *Explanation from Physics to Theology* [Yale Univ. Press, 1989]) or even just follow Lakatos in his notion of com-

peting research programs, it becomes inevitable to compare the rationality of explanations in various and different contexts, and therefore also between the contexts of theology and science. This touches the heart of Murphy's crucial notion of communal discernment: not only because of the troublesome question of how reliable these communal discernments in the history of the Christian church(es) are (even if, as Murphy claims, they are replicable by the same religious or faith group), but because of their limited and severely restricted epistemic scope. For explanatory progress in theological reflection, Murphy appeals to communal consensus. What a theology in discussion with agnosticism and atheism needs, however, is to show that what really challenges the shaping of rationality in postmodern theology—especially in the theology-and-science debate—is its ability to demonstrate *transcommunal* or intersubjective explanations.

In the end, a holistic epistemology implies more than communal discernment and communal consensus for contemporary theological reflection: it also demands a broader intersubjective coherence that goes beyond the parameters of the experience and reflection of the believing community. If Nancey Murphy's proposed convention for a postmodern theology cannot demonstrate this, the serious problem of how a Lakatosian theology would deal with the problem of fideism remains unresolved.

Closely linked to this is the question of whether the Lakatosian model, so suitable for determining progress in the natural sciences, can adequately cope with the broader and more complex problem of meaning as highlighted by the social sciences. Murphy correctly and very efficiently disarms all forms of foundationalism in her central argument. But when she designates the presupposed existence of God as "hard core" for a theological research program (à la Lakatos), and then adds that this hard core will always typically contain reference to God (194), she raises not only the important hermeneutical problem of the metaphoric and epistemic function of religious language. The very distinction between "hard core beliefs" and others that can be regarded as auxiliary hypotheses within an attempt at a holistic postmodern theology invariably raises the spectre of a Plantinganian, weak form of foundationalism.

The fact that Lakatosian "hard core beliefs" within a theological research program might lead to a subtle form of foundationalism that may not at all be consistent with Murphy's proposal for a postmodern theology finally leads me to her quarrel with critical realism (198ff.). She has important difficulties with this position: philosophically it implies the "outrageous" claim to have some knowledge of reality apart from our ordinary human ways of knowing (cf. 198). No sophisticated form of critical realism, however, would ever make this strong, dated, and truly foundationalist claim. A modest and qualified form of critical realism takes seriously the holistic approach of current postmodern and postfoundationalist thought and makes tentative claims through the epistemic access provided for us by the metaphoric nature of human language. In this sense, critical realism in theology would seek epistemic warrants for precisely the basic realist assumptions that a Lakatosian theology would work with (cf. the existence of God as the presupposed "hard core" of Murphy's theological research program). In doing this, critical realism in theology would take seriously precisely the role of Christianity's classic text and the way communal discernment has shaped the history of theological ideas right through Christian tradition and up to

today. But the way that the philosophical problem of rationality challenges theology to seek transcommunal explanations also has to be taken seriously if theology hopes to become a worthy partner in the current debate with the sciences.

The irrational inclusion of God as the "hard core" of a research program, therefore, might not only be inconsistent with the rejection of a qualified form of critical realism. It could also reveal a retreat to an esoteric commitment which might firmly bar the way of theology to the reality about which it proposes to make statements. In the extreme form of this view, religious beliefs have no need for explanatory support and can in the end be seen as just part of a groundless language game. When theological beliefs, however, become a species of belief whose truth is discovered only by means of criteria internal to the language game itself, this leads not only to a relativistic understanding of justification, truth, and knowledge, but to an epistemological relativism which would be fatal for the cognitive claims of theological statements—and this precisely in an age of scientific reasoning.

Our discussion of these difficult but important issues benefits directly from the stimulating input of Nancey Murphy's book. She is certainly right in asserting that theology can constitute knowledge that is on par with the epistemic status of scientific knowledge. It is as important, however, to realize that a postfoundationalist theology can properly aim for justified beliefs and for a tentative and provisional knowledge of what Christians have come to call God. And this can be done without any neo-Wittgensteinian appeal to groundless believing or to fideist accounts of theistic belief.

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