



Nancey Murphy

Relations between Theological and Scientific Methodologies

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PHILOSOPHY OF SCIENCE FOR THEOLOGIANS: An Introduction

by Gijsbert van den Brink, trans. Chris Joby. Frankfurt am Main: Peter Lang, 2009. 299 pages. Hardcover; \$72.95. ISBN: 3631569513.

If a theological curriculum has space for a course on relations between theological and scientific methodologies, this is a perfect textbook. Van den Brink provides a nearly flawless account of the history of philosophy of science beginning with the logical positivists and logical atomists in the 1920s and '30s, through the neopositivists (with particular attention to Karl Popper's critical rationalism), and ending with the 1970s, when study of the history of science produced more realistic accounts of scientific methodology, and lively debates among a few brilliant thinkers—particularly Paul Feyerabend, Thomas Kuhn, and Imre Lakatos. Van den Brink's account of the ferment in the 1970s rightly gives attention to recognition of the "theory-ladenness" of data, and the shift from foundationalism to holism, first postulated as the Duhem-Quine thesis that theories never confront experimental results alone, but only as a network of theories and assumptions. Kuhn's *Structure of Scientific Revolutions* provided historical evidence that entire "paradigms" are, in fact, challenged and replaced as a whole.

Van den Brink follows this historical account with an examination of the implications of each era in philosophy of science for the claim that theology be considered a science. The logical positivist and atomist accounts of science clearly

ruled theology "unscientific." However, as philosophy of science became more sophisticated, it became increasingly difficult to maintain that there are sharp differences between theology and the sciences. He then examines two attempts to argue for the scientific status of theology: Wolfhart Pannenberg's and my own, and follows with his own Kuhnian approach.

While I find van den Brink's text by and large insightful and judicious, I believe he has not adequately represented Pannenberg's work in *Theology and the Philosophy of Science*. Van den Brink

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Her first book, *Theology in the Age of Scientific Reasoning* (Cornell, 1990) won the American Academy of Religion award for excellence. She is author or co-author of nine other books, including *Anglo-American Postmodernity: Philosophical Perspectives on Science, Religion, and Ethics* (Westview, 1997); and *On the Moral Nature of the Universe: Theology, Cosmology, and Ethics* (Fortress, 1996). Her most recent books are *Bodies and Souls, or Spirited Bodies?* (Cambridge, 2006); and *Did My Neurons Make Me Do It? Philosophical and Neurobiological Perspectives on Moral Responsibility and Free Will* (Oxford, 2007).

She has co-edited eleven volumes, including *Philosophy, Science, and Divine Action* (Brill, 2009); *Downward Causation and the Neurobiology of Free Will* (Springer, 2009); and *Evolution and Emergence: Systems, Organisms, Persons* (Oxford, 2007).

Her research interests focus on the role of modern and postmodern philosophy in shaping Christian theology, on relations between theology and science, and on relations among philosophy of mind, neuroscience, and Christian anthropology.

Essay Book Review

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claims that Pannenberg intended to follow Kuhn's lead, and (following earlier critiques by Wentzel van Huyssteen) that he ultimately failed by clinging at a decisive point "to a by now outdated view of Popper" (p. 171).

On my reading of Pannenberg, he is indebted to Kuhn, but specifically for showing the inadequacies of Popper's methodology. Yet he recognizes, with van den Brink, that earlier stages of philosophy still have positive contributions to make. What Pannenberg takes from Popper is the recognition that empirical conclusions can be disconfirmed by future experience. This endorsement of Popper's position on the "anticipatory" character of knowledge is quite important when Pannenberg turns to the role of Jesus' resurrection as an anticipation of the end of history.

The philosopher to whom Pannenberg is most indebted is Stephen Toulmin. Pannenberg proposes that theories are to be criticized on the basis of how well they account for all available data. Pannenberg addresses the relation between the natural and human sciences and, following Wilhelm Dilthey, maintains that the distinctive task of the human sciences is understanding meaning, which is brought about by placing human phenomena as parts within the larger whole to which they belong. This being the general method of the human sciences, Pannenberg argues, there is no real difference between the methods of the human and natural sciences—explanation in both can be understood as provision of a new frame of reference within which the previously unintelligible event now becomes intelligible. Toulmin described explanation as making sense of previously unintelligible observations, not only through the construction of hypotheses, but also in the construction of "ideals of the natural order" that are used as paradigms to make nature intelligible. Thus Toulmin's understanding can be applied to all types of explanation: they all function by placing the fact to be explained in a context in which it can be understood as meaningful. Theology is a "science of God" when it investigates religious traditions to see to what extent their conceptions of the whole of reality are able to account for all currently available aspects of reality. The criteria for judging between theological traditions are parsimony, coherence, and accuracy.

My use of Lakatos's philosophy for understanding theological methodology was based on my judgment that his criterion of empirical progress

(requiring that modifications of a research program allow at least occasionally for the prediction and discovery of novel facts) united into one the various *desiderata* such as parsimony, coherence, and accuracy. Pannenberg noted that his *Theology and the Philosophy of Science* was written too early to have taken Lakatos's work into account, and that he would have used it himself if it had been available.¹

I suppose that because van den Brink's book was sent to me for review it is expected that I comment on his criticism of my work. Van den Brink's account of Lakatos's philosophy and my use of it is accurate and insightful. Unfortunately, however, he repeats a criticism of my work by Van Huyssteen to the effect that my account of communal discernment, which I propose as a criterion for judging the authenticity of religious experience, being specifically Christian, prevents any dialogue among religions. Thus I opt for "theological isolation," leading to "a (typically Anabaptist?) ghetto-theology, which serves only to confirm ... one's own point of view" (p. 190). Van Huyssteen claims that instead we need "transcommunal" criteria that transcend the boundaries of a specific faith community.

This criticism, however, completely misunderstands the brilliance of Lakatos's work. One aspect of the theory-ladenness of data recognized by the philosophers of the 1970s is that *internal* to each paradigm or research program are *theories of instrumentation* that serve as criteria for recognizing data relevant to that program. So I proposed Christian discernment as an analogue for a theory of instrumentation for authenticating data within Christian research programs (and I drew here from New Testament, Reformed, Catholic, Quaker, and Pentecostal sources, not just Anabaptist). Lakatos recognized the difference between *internal* criteria for validating *data* and a criterion for evaluating *competing research programs as a whole* according to their ability to make progress according to their own internal criteria. In Van Huyssteen's term, this is a "transcommunal" criterion that nonetheless leaves it to the various programs (scientific and theological) to determine their own appropriate sources of data.

For his own account of theological methodology, van den Brink gives up on a normative account of scientific method and settles for description in the light of Kuhn's work. He may well be right that Kuhn's vaguer notion of paradigms and the history

of their replacement over time is easier to apply to theology than Lakatos's more sharply defined concept of a research program. However, both Pannenberg and I want to retain the normative bite of a methodology.

Now, having gotten through the obligatory criticisms, I would like to situate van den Brink's book in its historical context and describe where the discussion of theology and philosophy of science ought to go next. I believe that van den Brink, Pannenberg, and I are among a larger group of scholars who have indeed contributed to an understanding of theology in the light of the best account of knowledge available at the time, which we took to be the philosophy of science of the 1970s. But we should not expect the development of epistemology to end there. Within that bit of history, Feyerabend had the last word: one can describe how science, at its best, works, and he believed that Lakatos had done so. However, the problem Lakatos could not solve was this: It can be shown that one research program is more progressive than its rival—at the present time—but one cannot know that the rival will not, at some future date, become progressive, while the earlier winner degenerates. Thus, no assurance can be given that scientists should abandon a degenerative program; Lakatos's methodology did not, in fact, have the normative bite that Pannenberg and I were looking for.

Van den Brink is aware of the recent writing of Alasdair MacIntyre, and includes his account of tradition-constituted rationality in his overview of the development of holist epistemology. There is one piece of MacIntyre's writing (which van den Brink does not cite) that makes a crucial link between philosophy of science and MacIntyre's later work on the adjudication between competing traditions of enquiry: in "Epistemological Crises, Dramatic Narrative, and the Philosophy of Science,"² he explains why the conversation in philosophy of science did not progress after the 1970s. MacIntyre raises against Kuhn the very problem that Feyerabend raised against Lakatos, and argues that what Kuhn failed to see regarding the Copernican revolution was the narrative connections between the Ptolemaic and Copernican paradigms. The crucial factor is that from the point of view of the Copernican system, it was possible to *explain why* the Ptolemaic system failed, and failed *just at the point it did*. This created a permanent "gain in intelligibility," not only explaining the astronomical phenomena equally well,

but also an episode in the history of science—the Ptolemaic program's failure to progress beyond a certain point.

So MacIntyre's work is a decisive step beyond the Kuhn-Lakatos-Feyerabend stalemate in philosophy of science. It incorporates the insight from Lakatos that it is only by looking at how a research program or tradition changes over time that it can be evaluated, and from Kuhn the insight regarding the role of authoritative texts and social practices in science. MacIntyre went on to apply these insights to the problem of relativism in ethics. A progressive tradition of moral enquiry is one that has the ability not only to overcome its own internal epistemological crises, but also to explain other traditions' crises in its own terms—while the reverse is not the case.

So now we have a new resource for understanding theological rationality. We can continue to employ our favorite philosophy of science for accounts of theological rationality within the Christian tradition, but then focus on the tradition rather than the theological research program or paradigm when it comes to the contest with naturalist traditions or other religions. No special pleading is needed to justify the use of our own authoritative texts or our own particular epistemic practices (such as discernment). However, we then need to engage in the ambitious project of showing that Christianity has resources to overcome its own epistemological crises, and to see whether it also has the resources to explain other traditions' inability to resolve their own. MacIntyre has shown that this is indeed possible with traditions of moral enquiry; he claims to have shown that the Enlightenment tradition of "traditionless reason" was unable to avoid moral relativism because it cut itself off from any account of ultimate reality.

In conclusion, I enthusiastically endorse van den Brink's insightful book, and hope that this review will encourage all fans of "philosophy of science for theologians" to incorporate MacIntyre's insights into further exploration of the topic of theological rationality. 

Notes

¹Wolfhart Pannenberg, in *Beginning with the End: God, Science, and Wolfhart Pannenberg*, ed. Carol Rausch Albright and Joel Haugen (Chicago, IL: Open Court, 1997), 430.

²*Monist* 60 (1977): 453–72.