

Reeves's Against Methodology in Science and Religion

with Paul Allen, "Critical Realism Redux: A Response to Josh Reeves"; J.B. Stump, "Science and Other Common Nouns: Further Implications of Anti-Essentialism"; Peter N. Jordan, "Legitimacy and the Field of Science and Religion"; Jaime Wright, "Making Space for the Methodological Mosaic: The Future of the Field of Science and Religion"; Victoria Lorrimar, "Science and Religion: Moving beyond the Credibility Strategy"; and Josh Reeves, "Methodology in Science and Religion: A Reply to Critics"

CRITICAL REALISM REDUX: A RESPONSE TO JOSH REEVES

by Paul Allen

Abstract. This article combines an appreciation of several themes in Josh Reeves's *Against Methodology in Science and Religion: Recent Debates on Rationality and Theology* while arguing in favor of critical realism. The author holds that critical realism manages to combine the objective truth reached through inference and especially cognitive acts of judgment as well as the various, contingent historical contexts that also define where science is practiced. Reeves advocates a historical perspective, but this article claims that in order for critical realism to be credible, a philosophical perspective must be maintained.

Keywords: critical realism; inference; judgment; Alister McGrath; Nancey Murphy; rationality; Josh Reeves; J. Wentzel van Huyssteen

Reeves has written a book that deftly weaves concerns for the history of science and gives priority to historiographical factors as the key to a more accurate assessment of the science-religion dialogue. This interpretation of historical factors combines with an accent on methodology, a topic which seemed to drop off the radar about 15 years ago, judging by journal article and monograph treatments of the topic. In this shorter review article, I will examine some of the insights that Reeves conveys in his book for the purpose of revisiting their broader implications and raise some points that push back against what I take to be a too easy historicization of the science-religion dialogue.

Paul Allen was Professor of Theology until 2019 and is now Dean, Corpus Christi College, Vancouver, Canada; e-mail: pallen@corpuschristi.ca.

First, Reeves is to be congratulated for bringing forward an analysis of this combination of method and history in a research monograph that, despite its relative brevity, effectively surveys the unfinished business of receiving the work of Nancey Murphy, Alister McGrath, and J. Wentzel van Huyssteen. His analysis of these three leading figures as well as the field itself is illuminating in several ways. He is correct in claiming that early on in the dialogue between science and religion, there was too much attention paid by theologians to the philosophy of science in structuring an account of theological realism, rationality, and theological method. While that deference to science has broadly receded, it is still correct to point out that this phase of science-religion discourse was, in this respect, ill conceived. Second, Reeves notes the overdependence upon Thomas Kuhn's paradigm theory that is present among many of these early efforts. Starting as early as Hans Küng's references to Kuhn in the 1970, the use of paradigm theory was used to state the limits of inference and the fact of revolutions in thought was taken by many as a devastating critique of logical positivism (Küng 1981, 111). However, as Reeves suggests, the effort to interpret science in a Kuhnian light in order to cast religion in a positive light is an implausible way to grant epistemological clarity to theology. I take his point that a reference to practice, instead of the conceptualist idea of paradigms, would be a preferable lens through which to think about science and theology. Likewise, the use of Imre Lakatos by Nancey Murphy is inadequate according to Reeves, because Lakatos still held to modernist assumptions over what makes for a degenerative versus a progressive research programme. But, even though Murphy has qualified her views in light of MacIntyre's notion of a tradition, the overall problem remains among many who want to fit theological doctrines within something like a scientific research programme or tradition.

Third, Reeves identifies some genuine tensions that pervade the thought of Alister McGrath, notably his way of describing a critical realist epistemology. McGrath sees critical realism like his predecessor scientist theologians did, as an epistemology that blends the confidence of scientific method to uncover the underlying reality of the world through the deployment of theories that are subject to tests and verification. Yet, like his predecessors Barbour, Peacocke, and Polkinghorne, McGrath recognizes that contingent factors render a straightforward portrait of scientific progress impossible. While Reeves accepts that the qualifier "critical" is in line with Kant's dictum that we simply do not have the privilege of understanding the real world in itself (67), he also thinks McGrath's use of critical realism is ultimately self-contradictory. Reeves's argument here is perceptive, although it is largely based on an analysis of the methodological writings in McGrath's *Scientific Theology* trilogy. Furthermore, as I will explain, I doubt whether critical realism is as inherently contradictory as Reeves implies on the basis of his analysis of McGrath. What is clear is that

had Reeves had access to McGrath's most recent volume, *The Territories of Human Reason*, he would have been able to see that McGrath stretches the tension within critical realism to breaking point. So, in fact, although I ultimately do not share his diagnosis of McGrath, I think Reeves could have made his argument against McGrath even more strongly had he seen McGrath's recent, more historicist text.

Fourth, Reeves analyzes the postfoundationalist theology of J. Wentzel van Huyssteen, notably the latter's methodological assumptions. As with his position on Murphy and McGrath, Reeves notes the theological insufficiency of the attempt to legitimize theological claims on the basis of science. Again, Reeves cites van Huyssteen's work on rationality to make his point, but without relying very much on van Huyssteen's best known work, *Alone in the World* (2006) in which this problem is more evident. Instead of McGrath's more straightforward yet contradictory critical realism, van Huyssteen relies upon evolutionary epistemology in order to provide what Reeves describes as this moderate position between Cartesian foundationalism and nonfoundationalist fideism, what van Huyssteen calls "postfoundationalism." While Reeves states a sympathy for van Huyssteen's aim, he ultimately finds fault with postfoundationalism's tendency to prescribe universal remedies for problems of local interpretation. Reeves is most lucid when diagnosing that van Huyssteen's position is historically weak because of the way that he deals with the Enlightenment skepticism toward theology and philosophically weak because it underdetermines the position that theology is a legitimate discipline. Van Huyssteen's view stresses the importance of a pragmatist, hermeneutical perspective, which adds a valid, complementary perspective to the predominance of analytical perspectives, and on this count, Reeves could have given van Huyssteen more credit.

These are some of the most incisive aspects of Reeves's book, and it is a welcome development that Reeves' observations and judgments should find their way into the science-religion dialogue at a time when the dialogue appears to be splintering into multiple strands or traditions. There are a number of issues that Reeves raises which I want to take up in a more critical vein, since it is clear from the number and breadth of the issues he raises that method has not gone away. Method is as important as it has ever been in the science-religion dialogue.

First, Reeves finds that Murphy and McGrath promote the misleading idea that there is a single story to tell about science. I see why Reeves would fault both Murphy's and McGrath's accounts. His critique centers on the idea that their portrait of science is overly abstract or conceptual. It is true that both of them work with shorthand ideas of science. However, so does Reeves via his own shorthand notion of "practice," and there are good reasons for working through these shorthand notions in order to understand science. It is impossible to capture all the nuances involved

in the types of inference deployed in scientific theories or the sheer variety of scientific practices within a single historically informed philosophy. Murphy and McGrath capture quite a bit, as does Reeves. What the dialectic between an epistemological portrait of science versus a historicist portrait does is that it suggests a tension. But this dialectic is not resolved here. Reeves does not offer a synthesis or a resolution of the differences between epistemological and the historical viewpoints, because such a task would be genuinely philosophical. What Reeves appears to have done in order to justify the dialectic is to frame the task of scientific theorizing as something opposed to practice. I see the distinction, but I believe that this is a mistake, since scientists can understand their own practice themselves without simply repeating what other scientists before them have done.

The role of scientific theory within scientific practice is undeniable. It is a twofold kind of action in itself: the act of drawing up a hypothesis in light of a discovery and the act of verification of the theory. It is not necessary to think of scientific theory as opposed to practice. Aligning my point with Reeves' aim, we need to see a benefit of thinking about the role of theory as at the heart of science. At the risk of essentialism, if we think of scientific theory at the heart of what we know as science, we avoid the pitfalls of abstraction that Reeves rightly associates with Thomas Kuhn and Imre Lakatos. The problem with these two thinkers is not simply that they elide historical contingencies in scientific rationality as Reeves believes. Just as importantly, they both overlook the cognitive aspects of theory as central for understanding scientific rationality. In Kuhn's case, the central category is paradigm and in Lakatos' case, it is the research program.

Theologians have borrowed these categories from these thinkers copiously in order to buttress theological rationality, especially Murphy's use of research program, as is well known. I agree that such borrowings were falsely premised, but not as Reeves claims, namely because theology borrows from science ahistorically. Rather, there is another false premise that Reeves does not mention, namely the idea that theology. But I would say that it does and theology should not be embarrassed by this fact. The formulation of doctrine, for instance, is intended to account for realities that are rooted in some set of interpreted experiences, on the one hand, and which can be tested to the point of correlation with findings from various disciplines, on the other hand. Exegesis, to take another theological task as an example, is tied to various theories about how to best read a text. There is no escaping theory in approaching a text, because to deny theory in this aspect of theology would be to affirm a fundamentalist view that the text does not require interpretation to be understood. In making these claims, I do not think that we fall into a scientific reduction of theological method, at least not necessarily.

The second topic on which I think Reeves's argument suffers concerns the critique he makes of McGrath's critical realism. Of the three figures

whose work is treated in his book, McGrath is the one with the most scientific credentials, although each of them is, of course, well versed in scientific disciplines to a significant extent. Reeves's argument is supported by a stance that emanates from the history of science. Therefore, his critique of McGrath's critical realism matters somewhat more than his critiques of Murphy and van Huyssteen. The question at stake in his critique of McGrath is the meaning of science's success. Is success a sufficient criterion for identifying science as more than a name for a particular body of knowledge?

Reeves believes that McGrath errs in two ways. According to him, McGrath states that science succeeds in providing a portrait of the real world that can be known while scientific inquiry is characterized by many contingencies that imply radical differences, not only between disciplines but also between individual scientists and teams of researchers whose practices and conclusions differ. For Reeves, this twofold proposition of McGrath's devolves into contradiction. As mentioned earlier, Reeves could not have predicted when he wrote this book the extent to which McGrath has doubled down on the paradox of accepting contingent historical and social factors while being a realist in the recently published volume (McGrath 2019). However, I remain unconvinced that McGrath contradicts himself, although he could have been clearer about how to avoid being understood in this way. Second, Reeves finds that the scientific realism animating McGrath's account is both romantic and global, that is to say, presumptive.

Although I agree that McGrath's critical realism does involve an outright contradiction between a realist premise and an affirmation of social contingencies, it remains a contradiction chiefly because it is not a developed view of judgment. That is, it is not a thoroughly argued philosophical position. Rather, his view is that of a theologian as well as a scientist, two views that remain distant from the entailments of a cognitional set of factors on an epistemological claim. This is not to suggest that philosophy is foreign to McGrath's purview, since after all he has relied upon Roy Bhaskar as his critical realist mentor. (And the fact is that Bhaskar is a philosopher of social science, a perplexing choice for those who sympathize with a broadly critical realist epistemology for theology and science.) So, by relying upon Bhaskar rather than cognitively more precise and metaphysically more robust philosophers, I think McGrath leaves himself open to critiques such as the one Reeves offers.

At one point, Reeves remarks tellingly: "Without demarcation criteria that would help delineate between science and pseudoscience, McGrath's arguments for realism could just as easily be employed by astrologists or paranormal psychologists" (Reeves 2019, 67). My response to Reeves, and McGrath indirectly, is that this is the mistake of conceiving of critical realism in idealist terms, specifically Kantian idealism, without reference to theory and its verification. Interlocking, verified theories make disciplines.

In his conclusion, Reeves allows that “just because the categories of *science* and *religion* cannot be used in an essentialist way, does not mean that these categories cannot continue to play a significant role in methodological debates” (Reeves 2019, 133). However, thinking of science and religion as categories is a poor way of mapping of the territories of knowledge. The epistemological maps that we use to understand the terrain we seek to study are provided by disciplines, not categories. So when Reeves goes on to claim that “maps (and thus categories) are problematic when they are empirically mistaken in their representations... mistaken for territory” (Reeves 2019, 135–36) is he describing anyone working in a scientific discipline? The impression one has by the end of the volume is that this is a form of straw man argument. Under the guise of a historically informed localism, Reeves posits the utility of categories. But unlike theories, categories float somewhere above empirical reality. Categories do not draw us toward a familiarity with the practice of science. And, taking McGrath’s formulation of it to be the final word, critical realism is assumed by Reeves to be both contradictory as well as naïve. But the alternative is a *de facto* idealism. But, this option suffers the worse fate of being ever more distant from the scientific work that is involved in formulating and verifying theories.

Let us imagine, therefore, another way of formulating critical realism that simply affirms two things. Let us take critical realism to be a view that applies to those disciplines that examine structures, which is to say a realism that applies to most scientific fields, excepting quantum physics and possibly certain fields of cosmology. This is not a global realism that predicts in advance that there will be some isomorphism between ontology and epistemology. It does affirm that certain theoretical constructs are fertile for their further verification, structures that are both known and to be better known (e.g., fractals, molecular bonding laws, natural selection in favor of camouflaged fur, and so on).

Judging that such structures exist is a key basis for positing future discoveries, and thus the possibility that once strung together in an empirical and conceptual relationship, such discoveries and the laws that they reveal comprise something like science as we know and refer to it. That is, science has to be more than a useful category. It refers to a history of inquiry that is made up of series of inferences and the structures to which those inferences refer. If we take the inclined plane experiments of Galileo, there is a direct link to other experiments for generating a generalization about acceleration and subsequently, the further extrapolation of the explanation of *in vacuo* fall. To ask about this inductive process inevitably produces the question of causation. The set of questions that begin with the induction from observed effects to the deductive questions about a hypothetical cause of these effects is what McMullin termed “the inference that makes science” (McMullin 1992, 2013). He took the idea that

“retroduction” combines induction and deduction in combined sequential form from Charles Peirce who refers to it as abduction. Regardless of whether one accepts retroduction as this combination of types of inference as described by Peirce and McMullin, what is important here is that empirical regularities are successfully observed, categorized, and theorized as to their cause. Thus, one can arrive at something like a definition of science and support the idea that science is composed of a pattern of epistemological features. If that means essentialism, so be it.

There is a kind of correspondence theory at work once one commits to a standard epistemological structure to scientific disciplines. Contrary to what Reeves claims, correspondence theory is still something with a great deal of traction among practicing scientists because they believe that they have to assume something like a correspondence of the knower and the known. Correspondence theory is therefore a kind of working assumption that needs tailoring to take into account the provisionality of particular claims, which is perfectly rational, so long as it is not reified into a naïve doctrine. It is simply an assumption that should not substitute for the role played by theory in the act of inferring from effects to cause in a structural science. It is why ontology does not precede epistemology; it must follow it.

Having reviewed why theory and inference are central for scientific practice and hence why they may legitimately base any definition of science, it is worth turning to a third topic. This is Reeves’s position on van Huyssteen’s postfoundationalist view. It is a perspective insufficiently understood and only intermittently cited. What is significant about van Huyssteen’s position is that he still holds to a mild form of critical realism in epistemology despite his strong positions on the social contingencies of human rationality. He writes:

In a pragmatic or weak form of critical realism in theology, the focus is only on the very limited epistemological conviction that what we are provisionally conceptualizing somehow really exists ... ‘Realism’ in a pragmatic form of critical realism ... enables us to speak of disclosure, and refers to the attempt at reliable cognitive claims about domains of reality that may lie beyond our experience. (van Huyssteen 1999, 217–18)

It is impossible to ignore critical realism as a credible view of rationality. While Reeves would interpret van Huyssteen in a way that purports to go “beyond” critical realism, the reason it cannot be abandoned is because we cannot abandon judgment. Judgment is a cognitive act. It is central to van Huyssteen’s view of rationality that respects both science and theology. Despite its historical variety and its provisionality, judgments are precisely what is trustworthy in both science and theology, sometimes even boasting a consensus. For instance, $E = mc^2$ is a consensus judgment about the relationship between mass and energy according to special relativity, but this

explanatory formula could be revised if it were feasible to unite relativity with quantum theory.

But, what is a judgment? Bernard Lonergan regards a judgment as simply an answer to the question "Is it So?" "It" is an insight of understanding into something (Lonergan 1997). A judgment is an intelligible reality with conditions that have been fulfilled for that thing to be known as real. Judgments are routine in science because of the prevalence of verification, which is to say that scientific judgments are a class of judgment but are not essentially different from judgments formulated in common sense or in other realms such as art or theology. Historical studies and those that are sympathetic with such studies, such as Reeves's volume, seek to play up the contextual values that formally cause the act of a judgment's formulation. In doing so, they downplay the reality that is known through judgments internal to the structure of inference.

While such an approach has the benefit of fostering the spirit of intellectual humility, it glosses over an important distinction between epistemic values by which scientists verify hypotheses and the social values that promote the overall inquiry. Understanding the difference is crucial if critical realism is to be affirmed as this kind of twofold claim without contradiction. Different types of values play distinct roles. Experiments are conducted routinely that utilize epistemic values such as fertility, simplicity, empirical adequacy, and other criteria in ways that are contingent on various social conditions, and their habitual usage tells us something essential about science.

What the habitual deployment of epistemic values means is that the cognitive basis for scientific judgments is routine and serves as a good basis for claiming critical realism. Reeves makes much of the distinction between a more humble local realism, over against a romantic global realism, which he associates with McGrath. But local realism cannot remain merely local. It ultimately depends on a structural, cognitively given pattern of inferential judgments in disciplines that give context to explanations. In various places, this pattern of inference is called retroduction or abduction. It unites induction and deduction and refers to the prevalence of hypotheses that require verifying in complex and different ways. The point is that van Huyssteen may have oversimplified the non-foundationalist approach to science, but his point about rationality is to my mind in need of full support. There is a cognitive bedrock to scientific procedure that is procedural and truth driven. That is a good argument for a cognitive dimension to the philosophy of science, which is what is missing in Murphy and McGrath. Reeves is right to cast shade over the philosophy of science for its tendency to be overly speculative. And it is the missing part of many critical realist arguments in the science-religion dialogue whose work is contradictory (or simplistic) for the reasons Reeves provides. But I am willing to wager that if we take judgment seriously as a

type of cognitive act, we may affirm critical realism as both epistemically reliable and coherent with the historical record.

Finally, Reeves ends the book by discussing the “essence of science” and the “essence of religion,” the issue of whether there exists some set of unique features of either of these two sets of practices that are intended for imitation in other areas of human endeavor. But, given the way that critical realism can be developed beyond contradiction because of judgment and the pattern of inference, anti-essentialism is a red herring argument in the end. Reeves’s assumption is that practice lies in tension with over doctrine or belief. Reeves emphasizes practice over against what he terms the “deep-seeded tendency for philosophers and theologians, whose specialization is language, to disregard and treat as unimportant other aspects of religious life [than concepts]” (Reeves, 134). But if the relationship between practice and doctrine is not oppositional, then doctrines measure practices and practices express doctrine, and if that symbiosis holds, the worry about essentialism dissolves. The variation in practice does not exhaust doctrine’s relevance as though practices trump doctrine by virtue of their plurality. Variation merely highlights the way in which the explanatory meaning of doctrine in theology or explanation in science might be understood differently in different contexts. Doctrine cannot be set aside in the effort to understand religious practice just as explanatory formulae or verified theories cannot be set aside in understanding science as it is.

I would concede to Reeves that while science is not cognitively unique, I would claim that it is exemplary of human rationality. More relevantly, science is successful and given the theological divisions that were rampant at the same time as the Scientific Revolution, we should not be surprised to see—in the work of standard historiographical treatments of the Enlightenment—a contrast set up between a unified scientific enterprise, on the one hand, and the divided state of Christendom and theology, on the other hand. Neither should we be surprised to see this contrast drawn on some methodological grounds where science is seen as successful precisely because theology is not. While such exaggeration is misguided, it is not without some merit. Even if the standard Enlightenment story about science is inaccurate, it is nevertheless true that science cannot mean just anything. Reeves equivocates on this matter at the very end of the book. On page 132, he recommends that we avoid reifying the terms “science” and “religion” because they are not natural kinds, while on page 134, he recommends reforming the use of these terms “in a self-critical way.”

Ironically, a reformed use of ‘science’ and ‘religion’, conceived as Kantian categories, would have the unintended consequence of leaving more room for philosophy, precisely the opposite effect of what I believe Reeves recommends. But if philosophy of science is to aid a more adequate critical realism, it needs to be rooted in a cognitional theory of judgment, an account of the operations of human consciousness that, I believe, yield a

pattern that defies a strictly historicist account. A better philosophy would suggest that there is not really any such thing as a “field” of “science and religion,” especially if these are treated as mere categories. My recommendation is for boldness. Science and religion are more than categories. We live or die by religious doctrines or their less satisfactory secular substitutes and we should also be willing to go to the wall to affirm realities of verified theories such as climate change. This is why critical realism makes ongoing sense. To set aside the reality of judgments made methodically and evident in verified theories would be a false humility, a scholarly shrug when a bolder spirit is warranted. Having said that, Reeves’s critique is a necessary impetus for critical realists to be more careful and more active in defining and defending the humanly formed, yet objectively successful, scientific, and theological enterprises.

ACKNOWLEDGMENT

A version of this article was originally presented as part of a panel titled “Is There a Future for Methodology in Science and Religion?” discussing Josh Reeves’s *Against Methodology in Science and Religion: Recent Debates on Rationality and Theology* (Routledge 2019) at the 2019 Annual Meeting of the American Academy of Religion, in the Science, Technology, and Religion Unit, held on November 23, 2019, in San Diego, California.

REFERENCES

- Küng, Hans. 1981. *Does God Exist? An Answer for Today*. Translated by Edward Quinn. New York, NY: Vintage Books.
- Loneragan, Bernard. 1997. *Insight: A Study of Human Understanding*. Edited by Frederick E. Crowe and Robert M. Doran. Collected Works of Bernard Lonergan, Vol. 3. Toronto: University of Toronto Press.
- McGrath, Alister. 2019. *The Territories of Human Reason: Science and Theology in an Age of Multiple Rationalities*. Oxford: Oxford University Press.
- McMullin, Ernan. 1992. *The Inference that Makes Science*. Milwaukee, WI: Marquette University Press.
- . 2013. “The Inference that Makes Science.” *Zygon: Journal of Religion and Science* 48: 143–91.
- Reeves, Josh. 2019. *Against Methodology in Science and Religion: Recent Debates on Rationality and Theology*. New York, NY: Routledge.
- Van Huyssteen, J. Wentzel. 2006. *Alone in the World: Human Uniqueness in Science and Theology*. Grand Rapids, MI: Eerdmans.
- . 1999. *The Shaping of Rationality: Toward Interdisciplinarity in Theology and Science*. Grand Rapids, MI: Eerdmans.