

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"

SCIENCE AND RELIGION: MOVING BEYOND THE CREDIBILITY STRATEGY

by Victoria Lorrimar 

Abstract. Reeves condemns the recruitment of scientific methods by representative theologians to lend credibility to their theological claims. His treatment of Nancey Murphy's use of Lakatosian research programme methodology is focused on here, and his proposal that science and religion scholars might act as "historians of the present" to advance the field is explored. The "credibility strategy" is set in historical context with an exploration of some of the science and religion field's original commitments and goals, particularly in terms of the emphasis on rationalism and corresponding neglect of the imagination, and the value of more creative input in promoting better dialogue between science and religion is highlighted.

Keywords: Imre Lakatos; Nancey Murphy; philosophy of science; science and religion; scientific method

The science and religion field is sorely lacking in strong methodological analyses, and Reeves has gone some lengths to rectify this with *Against Methodology in Science and Religion*. As a field of study, science and religion is extremely diverse, unable to be comprehensively surveyed in a single work, yet Reeves has distilled several methodologies that are united by their commitment to scientific essentialism.

In exploring certain models for bringing together science and religion, Reeves condemns the recruitment of scientific methods by theologians to

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lend credibility to their theological claims (2019, 122). Considering the work of Nancy Murphy, Alister McGrath, and J. Wentzel van Huyssteen as representative of different approaches to understanding the essence of science (method, realism, and rationality, respectively), Reeves questions the legitimacy of the entire field of science and religion, given its foundation on scientific essentialism.

While Reeves has outlined a helpful schema for understanding science, and corresponding theological adaptations, more generally, the focus of this response will be the theological appropriations of the scientific research programme methodology of Imre Lakatos in particular. Lakatos's model has received a lot of attention from theologians; as well as Murphy, Robert Russell (2010) values the work of Imre Lakatos for theological thought, and Philip Hefner (1993), Karl Peters (1992), Philip Clayton (1989), and Gregory Peterson (1988) all engage with the model in their theological writings.

Reeves has explored Nancy Murphy's adoption of Lakatos for legitimizing theology as a rational undertaking that can hold its own in the academy alongside the sciences. Murphy contends that her own proposal for theological methodology provides a counter to total relativism while also avoiding an absolute rationalist position (1990, 207). She likens the search for truth to solving a crossword puzzle, an analogy that she believes reconciles coherence and correspondence theories of truth (1989, 303). In her view, "a nonfoundationalist approach to theology guided by current philosophy of science is indeed possible" (1990, 206). Just how Murphy conceives of rationality with respect to theology is telling, however; the main objective is to convince the broader academy that rational theology is even possible, rather than to articulate a rational methodology for theology (1990, 208). "Here the game is won by anyone who can show that theology is in the same ballpark with science," Murphy argues (1990, 208).

If this is indeed the game, then Murphy and others have won. There is a growing community of scholars arguing against the sharp distinctions previously drawn between science and theology. Many affirm a consonance between the two fields in one form, rejecting "warfare" models or "nonoverlapping magisteria" (Gould 1998, 274). Murphy herself articulates a model of theology and science in "creative interaction", with theology placed at the top of a hierarchy of sciences (1997, 12). But the game of convincing the academy that theology should be on equal footing with science is not won in the way Murphy would have us believe. Theology and science are not drawn closer together by bolstering belief in the rational capacity of theology, but rather by probing belief in the rational nature of science. In Murphy's view, "few today question the rationality of science itself" (1990, 207). This may have been true when she wrote it 25 years ago, but the intervening years have seen this position challenged.

Murphy needs to go beyond a concession that data is “theory-laden” to acknowledge that scientists operate on the basis of underlying metaphysical positions that are not arrived at via reason alone. Indeed, in a later publication she does just this, underlining the “fallible, historically-conditioned character” of both science and theology (1997, 31). Despite her endorsement of Lakatos, and the rationality she considers inherent in his model, Murphy is at the same time able to concede final assessment of a research programme’s fruitfulness or success to the rather vague “good sense” of the scientist or theologian evaluating it (1990, 12). Reeves finds this appeal to “good sense” lacking also, identifying it with the “mysterious elitism” that Lakatos himself opposed (2019, 47).

Following along this trajectory of thought, it is no surprise that Murphy has moved on from Lakatosian methodology and its utility for theology in more recent work, and has since cited a preference for the tradition-dependent rationality of Alisdair MacIntyre (2007). Reeves gives a strong critique here when he points out the incompatibility of such a move (Lakatos and MacIntyre just do not go together), and it is one that Murphy does not offer an account for.

What Reeves illustrates so well is that the inability of the various scientific methodologies surveyed to accord credibility to theology as a discipline is not simply a problem of translation. They are inadequate for justifying theological knowledge simply because they are inadequate period. They fail when it comes to scientific knowledge as well. Where Murphy emphasizes a common rational nature between science and theology, Reeves argues against essentialist accounts of both disciplines.

Reeves points us in the direction of some possible corrections. In his assessment of Murphy and Lakatosian frameworks specifically, he contends that an emphasis on scientific practice, and particularly on its embodied and tacit dimensions as drawn out by Michael Polanyi, would round out some of the rational deficits arising from a neglect of language’s impact on practice, and also harmonize better with Murphy’s inclination toward nondualism (Reeves 2019, 48). More generally, Reeves offers three proposals to advance the science and religion field, all premised on an antiessentialist understanding of science. First, scholars could act as “historians of the present,” adopting a descriptive approach that examines the categories of “science” and “religion” and questions underlying assumptions (Reeves 2019, 129). Second, scholars of science and religion could embed themselves in specific programmes of scientific research rather than attend to generalized notions of how science and religion relate to one another (Reeves 2019, 131–2). Third, methodological discussions might continue, but reformed in alignment with an antiessentialist approach to science (Reeves 2019, 133–4).

In accordance with the descriptive approach, it helps to locate the credibility strategy in historical context. In part, we can understand this by

looking at the development of science and religion as its own specialism, questioning the understandings of “science” and “theology” within this particular field rather than the separate disciplines. The early shapers of the science and religion field were primarily scientists. David Tracy reminds us that in spite of the growth in “postmodern” accounts of science among philosophers of science, a degree of positivism persisted among many scientists in the period contemporary to Murphy’s work (Tracy 1981, 343). Taede Smedes, writing on the history of the contemporary science and religion field, takes issue with the scientific notions incorporated into the field’s origins. Ian Barbour is recognized as the founder of science and religion as a formal area of study (Smedes 2008, 235). Barbour’s quest to integrate science and religion, argues Smedes, “echoes the logical positivist vision of unification and has a strong bias toward science as the sole source of rationality, which does not take theology seriously” (2008, 237). Considering the objectives of Barbour’s landmark *Issues in Science and Religion* (1966), Smedes suggests it had the dual purpose of: (1) providing a conceptual investigation of the parallels and differences between science and theology, and (2) offering an apologetic for religion within the context of a modern, scientific culture (2008, 237–38). The aim was to restore a sense of intellectual respectability to theology, something that had been in decline since the Enlightenment period (Smedes 2008, 238). Already, we see the emergence of the “credibility strategy” than Reeves identifies in contemporary science and religion scholars.

The decline of theology in the intellectual arena as a result of science’s ascent has been well-canvassed. John Caputo (2006, 29) locates the original reconfiguration of academic enquiry with Kant’s conception of philosophy: “By setting philosophy up a notch, as a higher science that oversees science, setting its conditions and limits, [Kant] means to give philosophy a supervisory position, but he also effectively removes philosophy from the action, like a restaurant critic who doesn’t cook! Philosophy concerns a higher-level epistemological theory of science, but it has abandoned the real world to the sciences.”

Though Caputo is overly critical of Kant, as Kant was not reductionist in his approach to religion, Kant’s distinction between the various functions of reason did effect a disengagement of religion from scientific thought. The resultant change in cultural attitudes is described by a number of historians and philosophers. Historian Owen Chadwick (1975, 258) argues for a diminished sense of providence on the part of religious people since the Renaissance; an accompanying shift in attitudes to humanity. Smedes (2008, 242) terms this phenomenon “scientism as a cultural mode of thinking,” defining it more fully as: “a tacit faith or basic trust in science, an incorporation and internalization of scientific modes of thinking in our everyday-life mode of thinking or, alternatively, the accommodation of our everyday-life mode of thinking to a scientific mode

of thinking.” This cultural scientism, according to Smedes (2008, 242), is deeply enmeshed in the quest to integrate science and religion as conceived by the likes of leading scholars in science and religion such as Ian Barbour, John Polkinghorne, and Arthur Peacocke.¹

Though Barbour (1966, 172) adopts a critical realist position that “affirms the role of mental construction and imaginative activity in the formation of theories” in his early work, he later takes a more assimilative approach to integrating religion and science that draws on process philosophy (Berg 2002, 70). This is despite his earlier critique of process theology for succumbing to category mistakes in their search for an overarching metaphysical scheme to unite science and religion (Barbour 1966, 453). Thus, Barbour (1997, 158) argues that religious language is “noncognitive” and “no explicit propositional assertions about reality are made” in its use. In this view we might read an echo of logical positivism, at least in the relegation of religion and metaphysics to a noncognitive level (Berg 2002, 151; Smedes 2008, 251–52). Reeves too makes connections between both logical positivism and Kuhn’s response as influential for the use of science as an apologetic for theological claims (2019, 15–7). Smedes (2008, 253) considers the cultural scientism inherent in the work of Barbour, as well as Peacocke and Polkinghorne, to be a remnant of logical positivism. Before taking up theology, these scholars received scientific training “in an era in which the influence of logical positivism upon science was strong.”

Though Smedes makes some generalizations that do not fully account for the distinctions among the scholarship he critiques², his assessment of the science and religion field opens up an interesting conversation about its future. Examining the negligible impact that the science-religion dialogue concerning divine action has had on the work of contemporary systematic theologians, Smedes (2008, 245) contends that the answers offered by said dialogue are often too scientific. While divine action serves as a test case for Smedes, he concludes that the field tends toward “theological naturalism.” “Science not only has become our sole heuristic instrument to tackle questions that relate to our world but has extended its reach to deal with theological questions. (Smedes 2008, 245).” This constitutes a category error in which logical possibilities become collapsed into physical possibilities — “confusing the logic implicit in speaking about the natural order with the logic implicit in talking about the order of the divine” (Smedes 2008, 246). As a result of this kind of confused logic, Smedes (2008, 236) argues that the science and religion field has essentially reached a “midlife crisis” — neither theologians nor scientists outside the field are taking the dialogue seriously and it has become an end in itself.

It is into this “midlife crisis” that Reeves speaks, offering his own perspective on theology adopting science as a credibility strategy. Moving beyond these limits, where might the task of a scientifically engaged theology go? Reeves’s critique of the essentialization of science and religion

as categories provides a partial remedy, although I would caution against taking this too far. Certainly, we cannot speak monolithically about “science” and “religion” as if they are clear, singular concepts, but neither can they mean just anything, and they do still map to different epistemological spaces. Dialogue is not a fruitless undertaking if this is acknowledged from the outset, and science and religion as an area of scholarship is not condemned to a hopeless future.

Attending to the epistemological limits of science as well as theology, and affirming the imaginative dimensions of both disciplines will go a long way toward dialogue and a more scientifically engaged theology that is not diminished in the process. These turns offer a way beyond the credibility strategy that has hindered the science and religion field thus far. Reeves, too, holds out hope for its future, contending that “the field of science and religion has reached a level of maturity where it can recognize its deficiencies without fear of being delegitimized” (2019, 136). It seems that the midlife crisis might be nearing an end.

I would suggest that true dialogue between scientific and theological ideas might be better fostered if expanded beyond the formal field of science and religion in engaging specific scientific proposals. In part this aligns with Reeves’s second proposal for the field’s progress, but I would steer away from limiting it to science and religion scholars. I have seen some of the best scientifically engaged theology produced when sophisticated theological thinkers, with acknowledged allegiances to specific religious traditions, have shaped their reflections around a particular scientific question, though they are not accustomed to engaging the sciences in their usual work.

Beyond this, more creative media often offers up even better examples of top notch “science and religion” reflection. Fiction yields numerous examples that allow for this kind of engagement — rather than provide a survey I will just make reference to the most recent example I have read: Philip Pullman’s *The Secret Commonwealth* (2019). Despite his avowed atheism, Pullman is an incredibly sophisticated theological thinker, and his work of fantasy fiction cleverly critiques materialist and nihilist philosophies while teasing out the epistemological frictions of bringing together empirical and faith-based approaches to knowledge. It demands multiple reads, but as a starting point for talking about science and religion it would likely do better than many academic publications on the subject. Journeying with key characters as their philosophical commitments (often close to scientism) are exposed, their impoverishment evident when faced with the messy reality of human existence, is compelling for the very fact that its message cannot be reproduced in theoretical discourse. It appeals through the imagination — “stories seep into us — and stay there and haunt us — more than a report on the facts” as James K. A. Smith (2019, 58) contends in his treatise on cultural liturgies.

A descriptive approach to science and religion that is sensitive to epistemology acknowledges that reason is only one component of cognition. Scholarly approaches (scientific, theological, or otherwise) that privilege reason above other aspects of knowing cannot help but impoverish understandings of reality. We need to look further than Lakatos and his peers if we are to develop a more robust understanding of cognition, one that considers its embodied nature and, especially, one that attends to the role of the imagination. This kind of exploration yields a surprising result — the fields of science and philosophy of science and theology as separate disciplines have gone far beyond the particular field of science and religion in the value that they ascribe to the human imagination.

Yet the role of the imagination in discourse has received little attention in the science and religion field. We might understand this oversight if we return to the history of the field. We have already traversed the cultural scientism and echoes of logical positivism inherent in the work of science and religion pioneers. In the enthusiasm for Lakatosian methodology, we can identify a similar rationalist influence on the work of second-generation scholars such as Murphy. The imagination does not fare well in such an emphasis. Where reason is exalted, the imagination is pushed to the margins, or even excluded from epistemology. David Gouwens (1989, 17) describes the inability of Enlightenment thought to account for the imagination: “For rationalism, the imagination did not possess the clarity of rational ideas; for empiricism, the imagination seemed to lack the concreteness and vividness of sense-impressions.” Samuel Johnson’s (1810, 344–45) dismissal of the imagination as a “licentious and vagrant faculty, unsusceptible of limitations and impatient of restraint,” epitomizes the rationalist position.

How is rationalism bound up in the scientific methodologies that we are considering here? Gerald Holton, former professor of physics at Harvard University, and an historian of science, traces the defense of a narrow rationality through the Popperian school (to which Lakatos is responding) to the pre-World War II logical positivists, who sought the restriction of philosophical discourse to empirically discernible statements. He considers Popper’s view that “the rationality of science presupposes a common language and a common set of assumptions which themselves are subject to conventional rational criticism” to be heavily influenced by the prewar positivist movement (Holton 1978, 103). Thus, Popper (1965, 31) shows little interest in the creative context of scientific discovery, considering it “irrelevant to the logical analysis of scientific knowledge.” Instead, he proposes to make such creative action “rationally understandable” by giving “an idealized reconstruction of the problem situation in which the [scientific] agent found himself” (Popper 1972, 179). Midgley (2001, 149) links Popper with positivism as well, but sees in Popper a reaction to the influence of positivism and its legitimation of Marxism and Freudianism

as scientific theories. In dismantling the scientific classification of such schools of thought, however, Popper did not challenge positivism itself, but merely portioned off all “nonscientific” claims into the vague, nonsensical category of “metaphysics” (Midgley 2001, 150).

Lakatos, according to Holton, took up Popper’s proposal of rationalization both vigorously and dogmatically (Holton 1978, 105; c.f. Lorrimar 2017). In Lakatos’ attitude toward the history of science we can detect a fear of irrationalism; he adopts a defensive stance in order to rescue the idea of scientific progress as a product of rational methodology (Holton 1978, 107). Forrai (2002, 79) agrees with Holton, firmly locating Lakatos alongside the logical positivists in the project he terms “rationalism.” Though Lakatos challenges the Enlightenment ahistorical notion of objectivity that is displayed in the works of both Popper and the logical positivists, a similar claim of objectivity creeps into his denouncing scientific elitism (Forrai 2002, 79).

Even the opponents of rationalism may have played their part in prolonging its legacy. Holton (1978, 86–87) describes a conflict arising, post-World War II, between a group of writers he (in the vein of Nietzsche) terms “the new Dionysians,” and a group of philosophers he designates “the new Apollonians.” The “intuitive” Dionysians are primarily social and cultural critics, espousing suspicion of rationality and scientific reductionism, while the “logical-rational” Apollonians (in which group Holton includes Popper and Lakatos) would restrict rationality’s meaning to “objective” mathematics and logic, and scientific consensus (Holton 1978, 86–87). As is often the case with antagonists, both groups reinforce each other’s position, and “the scientist is caught between a large anvil and a fearful hammer” (Holton 1978, 86). Holton (1978, 109–10) describes the consequences of this conflict for ongoing attempts to understand the process of scientific enquiry: “Possibly the worst service the new Dionysians and the new Apollonians render is that their antithetical attacks continue to discredit the accommodation of the classically rationalistic with the sensualist components of knowledge.”

Given the prevalence of rationalism in the sciences during the period in which “science and religion” began to emerge as a discrete field of study, it is unsurprising that the imagination is underrepresented in science and religion scholarship. As we are particularly interested in the conceptions of *science* that undergird methodologies for bringing together science and theology, I have focused on the philosophy of science background pertinent to the questions. We might trace a similar emphasis on rationalism, and corresponding suspicion of the imagination, in certain theological traditions over the same period (Green 2000), but that is beyond the present scope. It will suffice to say that attending to *theological* retrievals of the imagination’s importance would also enhance the study of science and religion as well. Indeed, the science and religion field seems to be lagging

behind the sciences and theology as separate disciplines when it comes to incorporating the imagination (perhaps not so much a "midlife crisis" but rather a stalled adolescence then?).

So let us return to the imagination. Various scholars have come at the persuasiveness of the imagination from different angles, generally in attempts to challenge traditional dichotomies (between imagination and reason, between mind, and body, etc.). From the perspective of the sciences, understandings of how scientific knowledge develops are giving more credit to the imagination. Max Planck (1950, 109) affirms the need for the scientist to possess a "vivid intuitive imagination, for new ideas are not generated by deduction, but by an artistically creative imagination." Animal pathologist William Ian Beveridge (1957) provides a more detailed account of the imagination's role in generating new ideas, and in effecting sudden "leaps" in scientific problem solving. Physicist and biologist Leo Szilard also highlights the inherent creativity of science: "The creative scientist has much in common with the artist and the poet. Logical thinking and an analytical ability are necessary attributes to a scientist, but they are far from sufficient for creative work. Those insights in science that have led to a breakthrough were not logically derived from pre-existing knowledge" (cited in Damasio 1994, 189).

Douglas Hedley gives examples of how the creative imagination is at work in scientific discovery. He relates the development of relativity theory to Einstein's image of a rider with a mirror on a beam of light, the discovery of benzene's chemical structure to Kekulé's dream of a ouroboros, and Mendeléev's breakthrough with the arrangement of the periodic table to his dream involving the card game *solitaire* (Hedley 2008, 67). Speaking of both the humanities and the sciences, Hedley (2008, 67) argues that "wonder can inspire the imagination both to operate creatively and to illuminate the structures of reality."

Holton (1978, xiii-ix) delves further into the process, suggesting that the imagination of a scientist is guided (perhaps implicitly) by fidelity to certain "themata," the nature of which is determined by the historical context and the options open to the scientist during the period in which they are researching. He identifies a key characteristic of scientific enquiry — that it can often be described as "verging on a charismatic activity" — with this dependence on overarching themata (Holton 1978, xi). In analyzing the "event" of a scientific work, therefore, Holton (1978, 3–5) identifies many factors that should be considered, including both the state of science at the time of discovery, and the scientist's own "psychobiographical" context. He finds that themata guiding scientific enquiry are often paired antithetically, for example, atomism versus the continuum, which relates to "the dialectic nature of science as a public, consensus-seeking activity" (Holton 1978, 10).

Mathematician and chemist Charles Coulson (1955, 49) sees the use of imagination as one of the commonalities between science and other disciplines, for the interpretation of facts is a creative act. The guiding themata mentioned above is one aspect of this creative interpretation. Scientists also draw on metaphor in surprising ways, engaging the imagination in our understanding of various scientific concepts. Mary Midgley gives the example of the discovery of DNA and the central dogma. The selection of the terms “transcription” and “translation” to denote the process of moving from DNA to RNA to protein has contributed to the understanding of genetic material as digital information and the notion of the gene as an all-powerful controller of biological nature (Midgley 2001, 4–5).

Even the perceived antagonism between the disciplines of theology and science, Midgley argues, can be traced back to imaginative beginnings, impacted substantially by the thought of Greek atomistic philosophers epitomized in Lucretius’ poem *De Rerum Natura* (Midgley 2001, 23). Lucretius not only, or even primarily, conceived of atomism as an answer to scientific questions, but rather applied it in the sense of “a moral crusade — the only way to free mankind from a crushing load of superstition by showing that natural causation was independent of the gods” (Midgley 2001, 23). Thus, Epicurean hostility toward religion was imported into the scientific attitude alongside the development of atomic theory (Midgley 2001, 30). The creative elements of science and their accoutrements appear to exert their influence beyond the process of scientific enquiry. The impact that using machine imagery to describe the world, following the invention of early complex machines, such as clocks, has had on worldview is immense, particularly as machines are under human control by their very definition, to give another example (Midgley 2001, 25; c.f. Offray de la Mettrie 1996). Science, according to Midgley, cannot help but be affected by the imagination as scientific activity occurs within our larger world-pictures — the imagination pervades “the whole shape of our thinking” (Midgley 2001, 24).

The history provided here aligns somewhat with Reeves’s notion of science and religion scholarship as history of the present. The very categories of science and religion are challenged when we look at how they have been understood historically, and the changing status of the imagination in each discipline of study. Rather than restrict ourselves to scholarly literature, my suggestion is that creative works are seen as an important medium for this analysis as well. Drawing on other disciplines, such as literature, sociology, and anthropology, we can certainly engage popular texts as entry points for the kind of mediation between science and religion that Reeves advocates, but perhaps in a way that, ironically, cannot be unpacked in a methodological analysis. Though Reeves finds this descriptionist approach to be the least viable of his proposals for the future of science and religion, I contend this is only due to a lack of resources and investment in this type

of scholarship to date. In a postfoundationalist academic context that emphasizes interdisciplinarity, I am hopeful that we will see an increase in this type of engagement as the science and religion field outgrows the limits of its origin story.

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NOTES

1. Barbour (2008, 260), in defense against this charge, contends that scientism can only be understood in a more specific sense, that is, a combination of both an epistemological claim concerning scientific enquiry and an ontological claim concerning the material nature of the universe. Perhaps Smedes’s choice of terms is not entirely prudent or fair, however, Barbour’s objection to the term does not automatically protect his work from the charges contained within Smedes’s more broadly defined “scientism.”

2. For example, while Smedes lumps Barbour, Polkinghorne, and Peacocke together in his analysis, these three scholars are careful to assert their own (and label each other’s) distinctive approaches. Thus Polkinghorne describes Barbour as adopting an “assimilation” position on the relationship between science and religion (science assimilates religion) (Polkinghorne 1998, 86), while he considers Peacocke to follow a model of “consonance” (Polkinghorne 1998, 117–18). Neither Barbour nor Peacocke agree with this classification of their work.

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