# *Religion and Science in the United Kingdom*

*with Christopher Southgate, "Science and Religion in the United Kingdom: A Personal View on the Contemporary Scene"; and Peter N. Jordan, "Minimalist Engagement: Rowan Williams on Christianity and Science."*

## MINIMALIST ENGAGEMENT: ROWAN WILLIAMS ON CHRISTIANITY AND SCIENCE

*by Peter N. Jordan*

*Abstract.* During his time as Archbishop of Canterbury, Rowan Williams addressed the relations between Christianity and science at some length. While many contemporary theologians have explored the natural sciences in detail and have deployed scientific ideas and concepts in their theological work, Williams's writings suggest that theology has little need for natural scientific knowledge. For Williams, the created order's relationship to God renders the content of scientific theories about how finite causes are materially constituted and interact of little theological importance. At the same time, Williams is convinced that theological and scientific work must each remain within their proper bounds, a position that can best succeed in practice when participants in each discipline are aware of how both disciplines approach their subject matter. Although Williams's view challenges those who would insist that theology requires anything more than minimal engagement with the sciences, the ability to clearly demarcate and preserve the boundaries between scientific and theological work nevertheless requires of the theologian the kind of understanding of scientific methods and theories that Williams himself demonstrates.

*Keywords:* Church of England; creation; Christianity; divine action; God; science; theology; theology and science; Rowan Williams

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There has been a noticeable increase in recent decades in the number of theologians who have become interested in the natural sciences, and who have discussed scientific ideas and concepts at length or employed them in their theological projects. Among the most recent additions to this growing cadre of scholars is British Anglican theologian Sarah Coakley. In her 2009 inaugural lecture as Norris-Hulse Professor of Divinity at the

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University of Cambridge, Coakley discussed three ways in which her work had changed in response to new institutional and intellectual contexts in which she found herself during her career. The last of these occurred when Coakley moved to Harvard Divinity School in the 1990s, at which time she awoke from a "theological dogmatic slumber" after confronting the biological sciences. That she had theologized and philosophized for thirty years without sustained engagement with the natural sciences Coakley humorously put down to being a "living C. P. Snow disaster" (Coakley 2009c, 5, cf. Snow 1961). The fruits of Coakley's explorations in this new area thus far include a collection of essays co-edited with Harvard University mathematical biologist and evolutionary theorist Martin Nowak (Nowak and Coakley 2013), along with a handful of other essays in which aspects of evolutionary theory are central considerations (Coakley 2007, 2009a, 2009b, 2013).

Although theologians have shown considerable interest in science in recent years, it is worth noting that—as Fraser Watts has observed—the cross-disciplinary attention has been "notoriously one sided" (Watts 2010, 190). In the midst of all this curiosity about science, it is worth asking about the extent to which theology actually *needs* the natural sciences. Does the recent attention to science paid by theologians reflect a genuine need within Christian theology for the kind of knowledge that is obtained by the sciences? Do theologians need to go out and obtain degrees in the sciences to continue doing their work? Or is the extent to which theology engages with the natural sciences today potentially a passing fad, an enjoyable but largely unnecessary pursuit perhaps undertaken in the hope of regaining some of theology's lost cultural prestige?

This essay addresses these questions through an analysis of the work of another British Anglican theologian, Rowan Williams. A widely regarded theologian in Orthodox, Catholic, and Protestant circles and yet a self-described "scientific illiterate" (Williams 2008c), Williams began writing about the natural sciences and their relations to Christianity only within the last decade, despite having written on a wide array of theological topics for more than three decades prior to doing so. As his writings suggest, Williams's decision to discuss the sciences appears to have been prompted more by a concern about the ways Christianity was being misconstrued by various public figures during his tenure as Archbishop of Canterbury than from a conviction that the sciences require theological exploration and understanding or are central to the theologian's remit. Having not regarded it as necessary to incorporate scientific ideas and insights into his work in a sustained manner, and having written about science's relations to theology more from necessity than anything else, Williams might be characterized as adopting a minimalist approach to theological engagement with contemporary science. Yet Williams's obvious knowledge of the logic and methods of scientific inquiry, a knowledge that enables him to confidently chart

the territories of Christianity and science and clearly delineate the borders between the two, suggests that this minimalist engagement is nevertheless informed by a more profound familiarity with scientific ways of knowing than Williams lets on.

The present essay seeks to do two things. First, it lays out Williams's vision of the sciences and their relationship to Christianity as delineated in the essays and lectures he has recently given on the subject, a task not previously undertaken in studies of Williams's thought (Higton 2004; Goddard 2009; Russell 2009; Shortt 2009; Myers 2012). Second, it argues that what drives Williams's minimalist position—a minority one in many contemporary circles—is the belief that the nature of God's relationship to the created order renders the specific content of the natural sciences uninteresting from a theological perspective. In a created world of finite causes, Christianity as Williams understands it has little investment in any particular version of the scientific explanations of those causes, provided the operation of those causes is explained in a properly scientific manner and not in a covertly theological way. Although the content of theological claims may not depend in a substantial way upon scientific knowledge, familiarity with the sciences such as Williams himself models is invaluable, insofar as scientifically informed theologians can help the sciences to remain properly scientific by preventing the sciences from straying into philosophical and theological territory.

## Science, Religion, and the New Atheism

Williams's engagement with the natural sciences began only after he became Archbishop of Canterbury in 2002. During a press conference held on July 23 that year following the announcement of his appointment to the See of Canterbury, Williams stated that one of the tasks he would need to learn in his new role is "how to speak of God in this very public position, in the middle of a culture which, while it may show a good deal of nostalgia, fascination and even hunger for the spiritual, is generally skeptical of Christianity and the Church" (Williams 2002). It would not take long for that skepticism to find some of its most outspoken advocates in recent memory. During the middle years of his 10-year occupancy of the Chair of St. Augustine the so-called New Atheists rose to prominence, publishing numerous works denigrating religion and celebrating science. Following Sam Harris's *The End of Faith* in 2004, public avowals of atheism appeared with growing frequency, with Richard Dawkins publishing *The God Delusion* and Daniel Dennett producing *Breaking the Spell* in 2006, followed closely by Christopher Hitchens with *God Is Not Great* in 2007 (Harris 2004; Dawkins 2006; Dennett 2006; Hitchens 2007). As is well known, these books spawned a massive number of similar antireligion and proscience books and articles, and a correspondingly large number

of apologetic responses from those seeking to defend the various religious traditions subjected to the New Atheists' attack.

Until that point in his career Williams had not conducted anything like a sustained examination of the natural sciences, with only a few scattered comments about science to be found in the publications pouring from his pen since the early 1970s. The rising popularity of the New Atheists in the middle of his tenure as the public face of Anglicanism, however, prompted him to offer numerous musings on the nature of science and the place of science within a Christian worldview. Although these works comprise only a fraction of Williams's output while Archbishop, together they present a consistent depiction of God's relationship to the created order, the nature of the created order itself, and the place of scientific practices and knowledge of the created order in human life.

Williams's writings on science and its relations to Christianity were provoked by at least two problematic features of the views held by the newly vocal opponents of religion. The first can be seen in the rejection of what he judges to be the perverse aspiration to employ scientific principles in realms of life to which they do not properly apply. Writing in the preface to the book emerging from the Building Bridges seminar devoted to science and religion that he chaired in 2009, he asserts:

> [M]odern science has developed in a number of ways that have at times appeared hostile to religious faith. Many modern scientists have supposed that when they do their scientific research they are speaking from a position of, you might say, total synoptic understanding of how the world works so that the basic, most fundamentally true way of talking about the world is in terms of material interaction. That reductive approach is perhaps the most generative of conflict between scientists and people of faith, at least as the media and popular intellectual communication presents it. (Williams 2012b, 3)

As we will see, Williams regards this "total synoptic vision" and its associated reductionism as failing to do justice not only to the diverse ways in which human beings gain knowledge, but also to the nature of science itself in its manifold and varied forms.

A second feature of the New Atheists' work that Williams rejects is their frequent mischaracterization of the religions that they discuss. Speeches from as early as 2004 show that he by no means objects to intellectually rigorous and compelling forms of atheism (Williams 2004a, 2012b). Rather, what he objects to are portrayals of religious traditions and practices offered by anyone—atheist or otherwise—in which the depictions of religious persons and their acts are largely unrecognizable to religious persons themselves. Williams therefore used his public position as Archbishop to speak about God not in the terms granted by his interlocutors, but rather in ways faithful to enduring traditions of Christian speech about

God, particularly in response to situations in which the theological ideas constitutive of those traditions had been misconstrued or misinterpreted.

These two elements are clearly visible in Williams's first public discussion of religion and science, a lecture given at Swansea University in October 2007 under the title "How Religion Is Misunderstood" (Williams 2007a). According to Williams, one of the most egregious errors that Richard Dawkins and others make is to assume that "loosely speaking, Darwinian Theory is a theory of everything." By this Williams takes Dawkins to be claiming that Darwinism offers theories not only about biological matters but about history and culture as well. On this view, features of culture and history like religion can be explained—indeed, must be explained—in terms of their ability to aid or facilitate human existence over time: "every feature of culture must be in some sense a survival strategy." The unit of culture that purportedly is transmitted in this process of cultural and historical evolution is the *meme*, an entity that in Williams's estimation has not been (and likely never will be) definitively identified and whose mechanism of transmission (other than language and relationship) has not been nor will ever be precisely delineated. By attacking memetics in this manner Williams is objecting to the view that memetics qualifies as a scientific theory at all, especially given that it "lacks any predictive possibility [and] any definition of its processes." To claim a broader explanatory territory for evolutionary theory than is warranted ultimately makes evolutionary theory unscientific. Williams is unsparing in his criticism of the attempt to extend biology beyond its remit: "to suppose that there is a science of cultural transmission exactly like genetics only with different material . . . [is] philosophically crass, undeveloped at best, simply contradictory and empty at worst."

At the same time, Williams willingly concedes that religions are undeniably cultural phenomena, a fact visible in their concern with the "transmission of practices and ideas, structures of images, styles of behavior, ways of talking." Even if conceiving of a particular religion as a survival strategy were a plausible scientific hypothesis, Williams is convinced that there are numerous aspects of religions that make them resistant to explanation in terms of survival. It is in this latter move that the second facet of Williams's approach—offering a more authentic account of what a religious tradition teaches than its critics—comes to the fore. Against the desire to identify religion as a mere survival strategy, Williams argues that for adherents of the "classical religions"—established traditions like Judaism, Christianity, Islam, Hinduism, and Buddhism—to regard one's religion as a means of keeping oneself safe or as a tool for guaranteeing success in the world is antithetical to what it means to observe or inhabit that tradition: "The person who follows a religious pattern of behavior and uses religious language, simply as a means of securing themselves or their own position is . . . regarded as not having seen the point of being religious." Williams

here appeals to a broad array of convictions and associated practices from a variety of religious traditions—the Buddhist view of religious exercises being to dissolve the illusions imprisoning the ego, the Hindu vision of learning to be detached so that one's actions proceed not from one's ego and its needs but instead coincide with the eternal law, or the Christian goal of bearing the cross of Christ—to suggest that a deeper familiarity with even one religion, let alone many, cannot help but undermine the evolutionary theories of culture, history, and religion offered by Dawkins and others. Given these features of religious traditions, Williams argues in his characteristically understated manner that "whatever Darwinian explanation you can provide of this language is going to be—to put it modestly—a little strained."

The recent appearance of the New Atheists is thus the goad for Williams's deliberations on science and the relations between science and religion. Although a good portion of his writings on science are devoted to criticisms of the New Atheists, Williams does offer a number of constructive comments in which his own convictions about the nature of science and the ways it should be understood to relate to Christianity can be glimpsed. These comments are themselves premised on convictions about the kind of world it is that scientific reasoning and experimentation seek to understand.

## The Nature of the Created Order

At the heart of Williams's understanding of the religious metaphysics of Christianity is the presupposition that the created order is a "coherent system of finite causality" (Williams 2012a, 173). By this he means that entities in the world interact with each other and influence each other through cause-and-effect relations. Williams concedes that these relations are frequently very intricate and difficult to tease apart or isolate, yet this complexity by no means detracts from their reality: "we may have a very strong commitment to the mechanisms of cause and effect, and yet realize that in the real world no *one* cause produces *one* effect. . . . The causal process is real, but infinitely layered and interactive" (Williams 2008b, emphases in original).

This system of finite causes does not spontaneously emerge from nowhere, nor does it exist in perpetuity on its own. Rather, Williams sees the doctrine of creation as teaching that God brings the created order into existence and holds it in being at every moment. Certain images of God and God's relation to the created order prevalent in the contemporary intellectual world are thus disallowed for Christians: "For a . . . believer the relation of God to creation is neither that of the old image of someone who winds up the watch and leaves it, not is it that of a director in a theatre or, worse, a puppet master who's constantly adjusting what's going on" (Williams 2005a, 7). Instead of these deistic or interventionist

renderings of the God–world relation, Williams insists that God is constantly and unswervingly present, an "eternal activity which moment by moment energizes, makes real, makes active, what is there" (Williams 2005a, 7). Williams offers an image of an electric light relying on a constant supply of current as an analogy for divine action: "[T]he light is shining here and now because the electric current is flowing here and now. In the same way, it is the 'current' of divine activity that is here and now making us real" (Williams 2007b, 35). Williams correlatively emphasizes the need properly to distinguish between God and the creatures God creates so that God is not thought of either as one finite entity among others, or as not really different from the world at all (Williams 2014, 9–10). Addressing the confusion that may result from the Christian claim that God lies at the heart of the created order and yet for this position not to be equated with pantheism, for example, Williams states that "the point to remember . . . is that the difference is between an action (God's) that is caused by nothing outside itself, that is completely independent, and varieties of action that belong together in a system of *inter*action, interconnection, with everything affecting everything else" (Williams 2007b, 38, emphasis in original).

Although the very possibility of scientific knowledge relies on the existence of a world to know and human beings as knowers, it is nevertheless remarkable that a world of finite causes exists at all. In Williams's understanding God has no need of anything at all, because God lacks nothing and has no desires that must be—or even could be—satisfied by creating a world; God is "sublimely and eternally happy to be God" (Williams 2007b, 13). As a result, if the universe were taken away God would not suddenly be lesser than when the universe exists (Williams 2007b, 38). Yet the fact that God does create a realm other than God is for Williams by no means inconsistent with what Christians have long thought about God, for in God's inner trinitarian life God is already in a relation of "loving difference," God being one who "makes himself other" (Williams 2005b). The existence of the world is therefore simultaneously an astonishing fact and yet a fact that makes perfect sense in light of Christian teachings about the nature of God: "It is not at all surprising that God is the creator, that God is eternally one who generates what is other, who eternally makes different his own life in the outpouring and exchange of the life of Father, Son and Holy Spirit—that tells us that in the heart of God there is what you might call the energy of difference, an outpouring of life into otherness" (Williams 2005b).

God's ongoing action not only holds the world in being, but also makes the coherent system of finite causality that is the created order to be what it is. In his explication of Augustine's theology of creation, Williams argues that part of what it means for the world to be created is that the world is orderly and amenable to human understanding: "the transparency of the

world to the prior reality of God lies in the perception of things *actively* existing and maintaining a pattern of interaction that we can follow or chart in certain ways, a pattern of interaction that leaves no room for a final self-fragmentation, a chaos of arbitrary events" (Williams 1994, 11, emphasis in original). Elsewhere he asserts that the world God makes is a world that "makes sense, interlocks, balances, works together" (Williams 2005a, 7–8). This internal organization is itself the work of God, who stipulates the mode or specific way of being for each existing entity; God is the one "who limits all things, gives intelligible shape to all things and directs all things to a goal" (Williams 1994, 12). Put otherwise, the world's orderliness is both a sign and a product of God's action. For Williams, the world "shares or participates in God *by being a coherent system*" (Williams 1994, 11, emphasis in original).

Although orderliness is one of the chief characteristics of the world, this does not mean that this order is recalcitrant to change or cannot be modified. Whatever orderliness may exist among created causes, that realm remains open to the possibility of God varying it. The way that God relates to the world—intrinsically rather than extrinsically, holding in being what would otherwise not exist, ordering what could not possess any order on its own—means that unusual or unexpected interruptions to the world do not count as external interventions into an otherwise independent or free-standing system (such as metaphysical deism imagines). Rather, Williams conceives of these interruptions—what in Christian parlance has usually been referred to as miracles—using a variety of alternative images or metaphors that evoke ideas of proximity or translucency: the action of God becomes "much closer to the surface" than it usually is; the world becomes a little more "transparent" to the underlying act of God than it normally is (Williams 2005a, 8; 2007b, 45). Elsewhere he deploys multiple images in an attempt to speak of these phenomena: "if what is sustaining every reality is the energy, the action, of God, then is it so difficult to believe that from God's point of view and not ours, there are bits of the universe where the fabric is thinner, where the coming together of certain conditions makes it possible for the act of God to be a little more transparent?" (Williams 2005a, 8).

However pellucid the created order may be to God, Williams's discussions of the problem of evil show that he nevertheless takes very seriously the regularity and continuity of the finite causes that constitute the created order. It is in this world, with all of its integrity and interconnectedness, that human beings have emerged, beings possessing the freedom to act as they will. Yet this is also a world that produces violent processes of change—earthquakes, tsunamis, and typhoons, among others—that can kill and destroy the very beings to which it gives life. Much as we might wish it were otherwise, the world is not a place where God intervenes to produce effects over and above what finite causes themselves generate to

save human beings from these dangers. Whatever theological problems this view of God might generate, a created sphere of this kind would not be a genuine and internally consistent whole: "Would a world with a perpetual safety net really be a world at all, a place with its own integrity and regularity?" (Williams 2007b, 41). Furthermore, in a situation in which the regularity of operation is the very feature that allows for the meaningful pursuit of scientific knowledge of that world in the first place, the consequences of disorder and irregularity for scientific pursuits are obvious.

## Human Knowing in the Creaturely Realm

At the most basic level, Williams characterizes human knowing as "an effective contact with truth" (Williams 2012a, 175). To know the world is to make sense of what presents itself to us in terms of maps or descriptions that accord as closely as possible with the world as it actually is (Williams 2008a, 257; 2014). Crucial for Williams is the conviction that our knowledge of the world takes many forms and comes about through a variety of means. Rationality itself looks different in different contexts:

> Reasoning is a vastly diverse thing; the natural scientist makes sense with one kind of language—more dependent than we once thought on imagination and controlled "fantasy" . . . the social and political scientist works through the creation of models and stories of the interaction of groups or individuals—and points out how easy it is for some to have their "sense" made by others who have, or wish to have, power over them (ideology as a tool of control); the artist works to make sense of the uncompromisingly local or specific. . . . All are "reasoning"—arguing, persuading, pursuing conclusions, resolutions, adequate statements; all are searching for consistent utterance and integrity of vision. (Williams and Atkinson 1987, 257)

How we learn about something also depends upon what it is that we are trying to know: "Truth is one . . . but that does not mean that it is known in one mode: the truth of a matter of contingent fact is established by various means, which we learn as we learn our languages; the truth of ethical principle may be firmly established but the means by which we learn it are not the same as those for contingent facts; the truth involved in understanding another person's temperament or qualities requires different methods again and different processes of learning" (Williams 2012a, 175–76). Grasping the multifaceted nature of human knowing is vital for Williams because recognizing this complexity guards against misconstruing the relations between different realms of human knowledge or different methods of gaining knowledge (Williams 2004b).

This variety of modes of human knowing is reflected not only across the many different realms in which knowledge can be gained, but also in the multiplicity of modes of knowing operating within even a single realm like the natural sciences. According to Williams, one of the characteristic

features of scientific ways of knowing since the early modern period has been its diversity of methods and approaches, a diversity he traces historically to the advent of the Royal Society in England in the 1660s (Williams 2010). Since its very earliest days the research conducted by members of the Royal Society exhibited "different kinds of curiosity at work," a period of its life that Williams characterizes as "gleefully chaotic." This disarray is instructive for Williams because it points to the impossibility of reducing science to only one kind of interrogation of nature: "the profusion of curiosity, the great expansion of interest and questioning in diverse areas led . . . to a profusion of methods—that is, to a recognition that there was *more than one kind of intelligent question* you could ask about the world around you" (Williams 2010, emphasis in original). Although he does not attend to the ways in which scientific exploration itself has changed in the time since the advent of the Royal Society (Harrison 2006, 2015), Williams is doubtless right to point out that the multiplicity characteristic of the natural philosophy of that era is even more prevalent in the sciences of today, with scientific disciplines diverging from one another to such an extent as to preclude the identification of any single scientific method: "the so-called scientific worldview is itself a complex pattern of deeply diverse disciplines, very resistant to any idea of global reductionism—to the conclusion that there is one and only one kind of basic question" (Williams 2010).

The vast array of possible types of questions within the sciences is a manifestation of a characteristic feature of scientific endeavors generally: that the natural sciences of every stripe are fundamentally human activities. "All sciences," he writes, "are bound to the unfinished business of human communication, the sharing of language, metaphor and model. *Human* science is science that recognizes time passing and recognizes the truth that as soon as one question is answered another is generated" (Williams 2010, emphasis in original). Drawing here upon the work of philosopher Joseph Margolis (see esp. Margolis 1987), Williams asserts that it simply is not possible to dispense with the human element of science, because the entire process of scientific knowing is fundamentally a time-bound process created and undertaken by finite knowers. All knowledge for human beings is human knowledge, and all human knowledge is unfinished and incomplete. This fact is especially visible in the practices of science: "science is a means of not simply arriving at closure and certainty, but also of generating further upsetting and disturbing questions. Science is gloriously and rightly unstable. We may think of it as providing final answers, but . . . the real energy in science is the constant generating of new problems" (Williams 2008b).

What animates Williams's reflections on human knowing in the context of his engagement with the natural sciences—his acknowledgment of the sundry ways in which human beings come to know anything, and his insistence on the integrity of the various efforts to know the many different

kinds of things that human beings come to know—is a strong reluctance to let any one method or way of knowing colonize the rest. This commitment drives his opposition to the New Atheists' insistence, for example, that the only valid questions about cultural phenomena like religions are those that are asked from within the purview of evolutionary theory. If distinctive forms of rationality operate in different areas of human life, it is problematic to try to reduce all of those forms to a single kind, scientific or otherwise. Recognizing that the natural sciences themselves do not privilege any one method or approach is part of Williams's strategy for resisting attempts by scientists—atheistic or not—to dominate discussions of what can and cannot be known and to insist on the priority of their own methods and techniques in every domain. "Once we recognize that scientific disciplines themselves work in diverse ways," he contends, "we shall be less likely to import the mythology of a single kind of real or 'hard' knowledge into other areas of human learning" (Williams 2012a, 176).

## Christianity and Science

Williams's reluctance to let the approaches to knowing characteristic of one area of inquiry migrate uncritically into other areas is crucial for how he sees Christianity in relation to the natural sciences. This conviction is clearly visible in his treatment of the claim made by Dawkins and others that religion is a form of explanation of the same kind as one encounters in the natural sciences.

Williams is convinced of the ephemeral nature of all scientific explanations (Williams 2008a, 257). It is the very nature of explanatory hypotheses of the scientific sort to be overturned whenever new and better explanations of phenomena come along. As most religious persons would argue, however, religious belief typically does not involve that degree of contingency or potential fallibility. This does not mean that religious traditions are immune to criticism and change; indeed, Williams emphasizes the questioning and the internal critique that are central to the majority of the world's religious traditions. Yet as he wryly notes, "'I believe in God the Father Almighty, maker of Heaven, subject to further investigation' is not a creed that . . . has prevailed for very long in any part of the Christian world" (Williams 2007a). For all of its internal openness to debate and revision, Christianity involves a much more foundational or basic commitment than the usually tentative attachment one might have for a favored scientific theory. Such convictions are grounded in the claim that the God responsible for creating and sustaining the world is "there and . . . worth attending to," and as such, God's existence and action is not merely a conjecture that might eventually be eliminated as a result of further exploration. The difference between scientific explanation and religious belief is indicated in the dissimilar attitudes that one adopts toward God versus scientific hypotheses:

"You don't on the whole approach theories with contemplation or awe or adoration or indeed . . . love" (Williams 2007a). Holding religious views is thus not like provisionally assenting to a hypothesis that awaits further confirmation.

What Williams thinks religious convictions *are* like, or what they *do* explain, is revealed in part through his understanding of God's relationship to the created order. On the one hand, God is understood to stand outside (for want of a better description) the regular causal processes of the world, because God is the reason that these causal processes exist in the first place and take the specific forms that they do. God does not therefore constitute one possible answer among many to the question of what caused something in the finite order to occur, because God does not represent yet one more cause among the finite causes that comprise the created order. Scientific inquiry, on the other hand, probes finite causes and limits itself to created causes when offering explanations for occurrences. Religious allegiance like that central to Christianity is therefore distinguishable from scientific methods and practices not least in that religious commitment aims at recognizing that the entire created order is open to a reality that exceeds it, rather than at local explanations of specific occurrences: "It's not that religious faith offers an explanation which substitute[s] for the work of science. Scientific research seeks to identify the causes of particular phenomena and clusters of phenomena, including of course that remarkable cluster of particular phenomena which is the observable universe as we now know it. Faith states, not as a matter of explanation but as a matter of trust, that *any* form of energy whatsoever, at *any* stage of the history of the universe, depends upon the free initiative of God" (Williams 2008b, emphases in original).

Querying in light of this how Aquinas's arguments for the existence of God should be understood, Williams argues that far from offering scientific arguments (Williams 2007a), Aquinas is instead insisting that human beings need to learn to "see everything in relation to God," this being a central component of faith:

> Faith doesn't try and give you an alternative theory about the mechanics of the world; it invites you to take a step further, beyond the nuts and bolts, even beyond the Big Bang, to imagine an activity so unrestricted, so supremely itself, that it depends on nothing and is constantly pouring itself out so that the reality we know depends on it. Creation isn't a theory about how things started; as St Thomas Aquinas said, it's a way of seeing everything in relation to God. (Williams 2007b, 37)

Religious belief is about how one inhabits the world and comprehends its meaning. On Williams's reading, Aquinas is exhorting his readers to dwell in the world in a manner appropriate to its createdness by "cast[ing] light on how the intelligibility [and] rationality and coherence of the world

might be related to a reality that is not the world." It is in this manner that one makes sense of "the universe as a whole," a task that is "slightly more complicated . . . than just looking for an explanatory theory" (Williams 2007a) because it requires a variety of elements not typically associated with the assessment of scientific evidence: a "sense of fit," a "sense of compulsion by a story of authoritative and total transformation of the world's self-definition," a "sense of personal address or vocation, of personal and corporate liberation," and so on (Williams 2004b). This process of making sense is inseparable from properly understanding one's place in the world, a position characterized by complete and utter dependence on God (Williams 2007a).

Rendered in this way, then, faith and scientific reason do not compete with each other for the same explanatory territory, or even attempt to answer the same kinds of questions. Faith is its own form of knowing, one whose ultimate object of knowledge—God—is unlike any created entity, and thus cannot be known in the same way—or to the same extent—as any creature:

> Faith, in this sense, is not a replacement for knowledge of a mere "ordinary" kind, not a set of answers to questions or a bundle of bits of esoteric information. Some of our long-standing worries about "faith and reason" seem to arise from the odd idea that they are two rival ways of getting to know things; whereas faith in the New Testament context is more a way of seeing myself and my world afresh, and a resource for hoping, choosing, and acting. . . . Justification by faith is also a justification in "unknowing," the learning to live with what exceeds our grasp: more, perhaps, like learning to swim than learning to drive a car? an attunement, not a mastery. (Williams and Atkinson 1987, 2–3)

The implications of these views are clearly visible when Williams addresses the relationship between scientific knowledge and biblical interpretation. On the specific question of whether the Bible should be expected to convey scientific facts or insights, Williams cites the troubling example of those who seek to use biblical information to fill purported gaps in scientific explanations. Williams once again objects here to the confusion of different kinds and sources of knowledge available to human beings. When the Bible is regarded as a source for scientific knowledge, not only does this mean that the Bible is looked to for information that can be obtained through other means, but it also calls into question the veracity of what is revealed until it can be independently established through scientific experimentation or observation (Williams 2012a, 175).

All of this might lead one to conclude that for Williams science is completely separate from or separable from Christianity, but this is not the case. Williams gestures toward at least three ways in which they pertain to each other. First, following Augustine, scientific exploration of the created order is an important endeavor for Christians—or at the very least, Christians

need to be familiar with the products of contemporary scientific investigation even if they do not themselves conduct that research—because Christians run the risk of making the faith look ridiculous if they are poorly informed about the nature of the world they inhabit (Williams 2012a, 173). Despite portraying himself as a scientific neophyte, Williams is clearly well aware of the inner workings of numerous scientific disciplines, modeling for his readers the kind of familiarity with the sciences that Augustine likely had in mind (Harrison and Lindberg 2011).

Second, religious convictions are pertinent to scientific investigation in that they contribute to societal conversations about the ethical boundaries within which scientists are to work. The scientific search for knowledge is for Williams an intrinsically amoral exercise, but this does not mean that scientists should be free to conduct whatever investigations may take their fancy:

> What scientists *do* and what scientists *discover* is never evil from a religious point of view. The question of meaning and of use is thrown back upon us, the human observers of this particular human practice, who have to make sense out of it, individually and socially. And when the researcher has come up with an ambiguous, uncertain, potentially dangerous discovery, we are left with the task of evaluating, we individually and socially. And if we have a problem about the advance of scientific research—as so many seem to, these days—we need to remember that the problem is not in the search, but in the lack of a shared moral, philosophical or even religious framework within which to make sense of what the scientist delivers. (Williams 2008b, emphases in original)

On this view, religious traditions offer interpretive frameworks within which, for example, convictions about the intrinsic value of human beings might be insisted upon in the hope of preventing scientists from conducting inappropriate research on human subjects. Nazi Germany provides for Williams a potent example of what happens when a "deeply antihuman philosophy" dictates the research that may be conducted on human beings. In this and other cases, "what the scientist is permitted to do by society, depends on attitudes and practices that science itself has not generated and is not capable of generating" (Williams 2008b).

Third, while Williams regards the kind of knowledge that comes through faith as being of greater consequence than that which comes through the natural sciences (Williams 2012a, 174–75), he nevertheless discerns a certain formal similarity or analogy between the attitude scientists adopt toward the entities they study and the contemplative attitude toward the created order of the religious adherent. For human beings to learn anything about the natural world—to have that effective contact with it of which he speaks—we need to relate to the phenomena that present themselves in a manner characterized by both attention and humility (Williams 2008b). The humility to which Williams refers pertains to the

perpetually unfinished and incomplete nature of human knowledge—the constant awareness that there is always more to be learned, that we must resist the inclination to assume a posture of mastery toward that which would be known. Insofar as the practice of science also requires humble attention to things before us to be successful, science exhibits "an ethos, literally a morality, a set of assumptions about appropriate behavior" that differs little (if at all) from other human attempts to attend to the world beyond the self. As Williams puts it, "Within scientific practice there is a subtle balance of security and insecurity, discovery and fresh questioning which is in fact remarkably like the way in which human beings behave in their relationships with one another and the world at large. So, far from science being a small privileged area of absolute certainty in a wilderness of doubt and superstition, science in practice, gets to look surprisingly like human activity" (Williams 2008b).

In this regard, then, the natural sciences and religious faith assume a similar attitude toward the truth, an attitude that is clearly visible in both pursuits. "Science," Williams asserts, "needs to remain human in that sense, to be self-aware of itself *as* human science, aware of incompleteness, aware of the joy of nonfulfillment. And at that level at least, science is bound to be operating with an image of humanity itself as a life form attuned to truth and to growth. . . . Recognized or not, the resonance of this with the life of faith is worth noting. Faith . . . presupposes that we are indeed as human beings attuned to truth and to growth, made by a God whose love has designed us for joy" (Williams 2010).

## Conclusion

In his recent book *The Unintended Reformation*, early modern historian Brad Gregory charts some of the historical developments that have led many contemporary persons to conclude that modern science has made religious belief impossible (Gregory 2012, 25–73). Rejecting the theological assumptions implicit in the conceptions of Christianity repudiated by scientistic naturalists who insist on the irreconcilability of Christianity and science, Gregory argues that there need not be any reason why scientific pursuits should undermine religious belief provided one adopts a view of God consistent with what many Christian—and indeed Islamic and Jewish—theologians have previously put forward. Traditional convictions about divine transcendence mean that what scientific methods reveal about the world will have no impact on God's presence to and operation within the world. According to Gregory, "It is certain that all *possible* scientific findings are compatible with the conception of a transcendent creator-God" taught by the vast majority of the Christian tradition. "This conclusion," he writes, "follows directly once one understands . . . [that] any and all scientific discoveries simply tell us ever more about the natural

world, which throughout the history of Christianity has been understood, following scripture, as God's creation" (Gregory 2012, 71, emphasis in original).

As the positions laid out above suggest, Rowan Williams is in substantial agreement with Gregory on this issue. The natural sciences provide a very useful and effective means of uncovering the details of nature, but their success in this regard relies on the use of particular methods and the production of kinds of explanations that cannot necessarily be applied directly to other realms of human life without running the risk of distortion. Furthermore, the subject matter of the natural sciences—in Christian terms, the created order—is itself open to interpretations other than those proposed by the sciences. In Williams's understanding, scientific readings of the world give an account of the structure of the finite causes that constitute the world and of the mechanisms of operation of those finite causes on one another. Theological readings produce something quite different—an appreciation of the complex structure of the created order as a sign both of the creator's wisdom, and of God's providential care of created beings (Williams 2012a, 174; 2014, 1–34). Crucially for Williams, the theological reading is not dependent upon the contents of the scientific reading.

The main reason Williams thinks scientific knowledge itself has little to contribute to theological matters is the assumption long made by many Christian theologians—and which Gregory also highlights—that the created order is comprised of finite causes held in being and made active by an infinite creator. This assumption cannot be undermined by new developments in the sciences, because the sciences themselves can only interrogate finite entities and their causal characteristics and behaviors. Because of this, Williams is convinced that Christian theology can withstand even massive changes in how scientists theorize about the causal structure and function of the universe, because theological ideas need not be wedded to—because they are not ultimately dependent upon—prior scientific frameworks or ideas. Nevertheless, Williams does identify numerous similarities between Christianity and science in terms of the attitude or posture that scientists and theologians take toward their respective subject matter. Alister McGrath has similarly described some shared "habits of thought" in his 2014 inaugural lecture as Andreas Idreos Professor of Science and Religion at the University of Oxford, although McGrath goes further than Williams to argue that the formal similarities between scientific and theological approaches provide an avenue through which theology can learn from the sciences (McGrath 2014).

Having said this, if the positions Williams has articulated are correct, Christian theologians do need to have an intelligent—if not encyclopedic—knowledge of the sciences. Williams's treatment of the sciences in his work suggests that, rather than the traffic always flowing from the sciences to theology, theologians can in fact be of service to science

by encouraging scientists to remain true to their disciplinary practices and boundaries. Theologians can do this without having to become scientists in their own right in the process, but the process is doubtless more straightforward for those theologians (like Williams) who are conversant in a broad array of scientific approaches and findings. In the end, theologians need to know enough science so as not to be ignoramuses, and scientists need scientifically informed theologians to save them from being theologians in disguise.

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