Michael Ruse's View of Faith and Science

with David Wisdo, "Michael Ruse on Science and Faith: Seeking Mutual Understanding" and Michael Ruse, "Making Room for Faith in an Age of Science: A Response to David Wisdo"

MICHAEL RUSE ON SCIENCE AND FAITH: SEEKING MUTUAL UNDERSTANDING

by David Wisdo

Abstract. In *Science and Spirituality*, Michael Ruse attempts to reconcile traditional Christianity and modern science by arguing that Christianity addresses questions that lie beyond the domain of science. I argue that Ruse's solution raises a number of problems that render it unsatisfactory for both the scientist and believer. First, despite his objections to "God of the gaps" arguments, his own strategy for identifying those questions that are beyond the limits of science seems to raise the problem in a new form. Second, what Ruse offers as evidence for the limits of science is better construed as evidence for deep disagreements among scientists and as such does not support his claims about the limits of science. Third, in aiming to establish their independence, Ruse subordinates religion to science. Finally, his support of traditional theology as a mode of religious understanding might cause concern for those who believe that certain kinds of theological reflection are at odds with scientific thinking.

Keywords: God of the gaps; independence; limiting questions; mind; morality; origins; purpose; Michael Ruse; science and spirituality; theology

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In recent years, the philosopher of science Michael Ruse, who has distinguished himself as one of the foremost experts on Charles Darwin and the theory of evolution, has increasingly turned his attention to issues concerning religion, spirituality, and science. Although such a development might not be surprising—after all Ruse has been engaged in debates over science and Creationism since his famous 1981 testimony in McLean v. Arkansas—what is surprising is his sympathetic approach to Christianity. Unlike the "New Atheists" such as Richard Dawkins, Daniel Dennett, Sam

David Wisdo is Associate Professor of Philosophy in the Department of Mathematics and Philosophy, Columbus State University, 4225 University Ave., Columbus, GA 31907, USA; e-mail wisdo_david@ColumbusState.edu.

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Harris, and Christopher Hitchens, all of whom have gained notoriety for their diatribes against organized religion and Christianity, Ruse has written a number of books that demonstrate a careful and thoughtful engagement with the tradition. Although it would be a mistake to suggest that Ruse has "seen the light" or has found some of that ol' time religion, his writings *Can a Darwinian Be a Christian?* (2001), *The Evolution-Creation Struggle* (2005), and *Evolution and Religion: A Dialogue* (2008) reveal a nuanced attempt to do justice to the historical, philosophical, and theological issues surrounding the relationship between religion and science.

In his latest book, *Science and Spirituality: Making Room for Faith in the Age of Science* (2010), Ruse develops many of the themes and issues introduced in *Can a Darwinian Be a Christian?* In this earlier work, Ruse focused on the alleged antinomy of evolution and Christianity and argued that evolutionary theory is not only compatible with nonfundamentalist versions of classical Christianity; but that many of the traditional Christian worries, such as attempts to address the problem of evil, can actually be addressed by a Darwinian understanding of human nature. Continuing the trajectory of his earlier project, Ruse broadens his perspective in his latest book: instead of focusing on evolution and religion; he addresses the more general question of whether Christian faith can be reconciled with modern science. As his subtitle *Making Room for Faith in the Age of Science* suggests, Ruse adopts the Kantian strategy of highlighting the limits of science, showing that there are questions concerning origins, mind, morality, and ultimate purpose that science does not answer, and concludes that such questions are nevertheless meaningful enough to invite a religious response.

As it turns out, however, Ruse's latest argument for the independence of science and religion generates a number of problems that render it unsatisfactory for both the scientist and believer. First, despite his own objections to the kind of "God of the gaps" arguments used by defenders of Intelligent Design, his own strategy for identifying those questions that are beyond the limits of science seems to raise the "God of the gaps" problem in a new form. Second, what Ruse offers as evidence for the limits of science is better construed as evidence for deep disagreements among scientists and as such does not support his claims about the limits of science. Third, in aiming to establish their independence, Ruse subordinates religion to science. The problem is that this subordination of religion to science generates a tension between the two that Ruse leaves unresolved. Finally, his support of traditional theology as a mode of religious understanding might cause concern for those who believe that certain kinds of theological reflection are at odds with scientific thinking. The worry is that the habit of accepting certain kinds of theological strategies, such as the appeal to mystery, might lead to habits of thinking antithetical to genuine scientific inquiry.

Machines and Organism: Metaphors and Their Limits

In the first four chapters, Ruse sets the stage for his analysis and argument by providing a selective history of science, which aims to show how certain root metaphors have both framed the agenda and set the limits of scientific inquiry (Ruse 2010, 11–116). He tells a familiar story that begins with the ancient Greeks who viewed the cosmos as a living thing and adopted organism as their root metaphor. As Ruse observes, although we might want to distinguish the external teleology articulated by Plato in his *Timaeus* from Aristotle's internal teleology, it is clear that that both shared the same root metaphor and insisted that nature is governed by purposes and values (pp. 25–31). Throughout the Middle Ages, the organism metaphor inherited from the Greeks was developed in more detail and reinterpreted by thinkers such as John of Salisbury and Thomas Aquinas to bring it into agreement with Christian beliefs and doctrine (pp. 33–36). Ruse's narrative continues with the rise of modern science, particularly the astronomical theories of Nicholas Copernicus, Johannes Kepler, and Galileo Galilei, which eventually led thinkers to give up Aristotelian appeals to final causality and to focus exclusively on the identification of efficient causes (p. 41). The final result was the adoption of the root metaphor of the "world as machine" that epitomized Isaac Newton's and Robert Boyle's investigations of the physical world (pp. 45–53), but was eventually extended to include the world of living things (pp. 54–84). Ruse includes a discussion of the vitalist reaction to mechanism and notes the ambivalence of later philosophers such as Immanuel Kant who, though committed to a Newtonian mechanistic view of nature, adopted teleological thinking as a regulative principle for understanding living things: although we do not observe design in nature, we treat it "as if" it were governed by purposes (pp. 62–65). Finally, Ruse brings his story to a close by examining the triumph of mechanism, first in what he calls the "artifact mechanism" of Charles Darwin, who seems to use such language in his discussion of adaptation (p. 77), and finally in contemporary developments such as cognitive science and evolutionary psychology where the machine metaphor for understanding human beings as "thinking machines" reigns supreme (pp. 106–16).

Given the triumph of the "machine metaphor," where is there any room for God, religion, or spirituality, let alone the traditional God and the beliefs of orthodox Christianity? After all, orthodox believers claim that the world was created *ex nihilo* by an infinite Being who is perfect in every way: all-powerful, all-knowing, and all-loving. Moreover, according to this story, this Being did not manufacture mere "thinking machines" but rather spiritual beings created in the divine image and invited to fellowship and communion. And despite the fact that these spiritual beings have "fallen" into sin by their own free will, God has provided a remedy by sending his Son Jesus Christ into the world to die for sin and to pave the way for eternal

life by raising him from the dead. The promise for orthodox believers is that all who have faith are destined to share in this eternal life with God.

Although Ruse has no patience at all with fundamentalist forms of Christianity, whose literalist interpretations of the Bible have been used to defend what he sees as the bankrupt agenda of Creationism, he has developed a reputation for the tremendous respect and even sympathy he has for the traditional picture of Nicene Christianity. Appealing to a careful and nuanced interpretation of the defenders of the tradition, ranging from Augustine, Anselm, and Thomas Aquinas to Martin Luther, John Calvin, and Karl Barth, Ruse sets out to show that orthodox Christianity is compatible not only with evolution, a point that he argued at length in his earlier book *Can a Darwinian Be a Christian?*, but also with all of modern science.

Ruse's Argument

So how does Ruse develop his case for the compatibility of orthodox Christianity and modern science? In Kuhnian fashion, Ruse suggests that although paradigms and root metaphors set the agenda for inquiry by providing a heuristic that defines problems and yields insights, they are limited. The two major root metaphors that have defined the shape and scope of inquiry throughout the history of Western science, organism and mechanism, have been very helpful in illuminating some issues, but often at the expense of others. As Ruse sees it, even though the machine metaphor has won the day in modern science, there are still legitimate questions, what one might call "limiting questions" (Toulmin 1950, 204–21), which science, at least with the current mechanistic metaphor, does not address: "This restricting of the questions, this putting on the blinders, is also true of the big metaphors, the root metaphors, including the machine metaphor. We have looked in detail at the triumphs. Now raise the other side, not so much the failures but the areas where the metaphor does not go and where the scientist therefore is not led. I want to argue that there is a set of problems that are genuine, but that are not touched by the metaphor. On them, the metaphor is silent" (Ruse 2010, 119).

Since it is possible that the root metaphor leaves unanswered some interesting and meaningful questions, Ruse suggests that traditional Christians can make room for faith by identifying those areas that might lend themselves to a religious response. Ruse is cautious and acknowledges that not everyone will agree with him in his identification of those problems that escape the domain of science. But as Ruse sees it, there are four main areas where mechanistic science comes up short and which deserve our attention: the question of origins, the foundations of morality, the "hard

problem" of consciousness, and the question of meaning and purpose in human life.

Origins. Although Ruse agrees that modern cosmology has answered and will continue to answer many of our questions concerning the Big Bang, he believes that what Adolf Grünbaum has called the Primoridial Existential Question, "Why is there something rather than nothing?" has no scientific answer (p. 120). But even though he maintains that there is no scientific answer to the question, this does not mean that it is meaningless. Acknowledging that there are philosophers such as Ludwig Wittgenstein and Paul Edwards who have argued that Primoridial Existential Question is not a genuine one, Ruse is happy to endorse it and to suggest that the classic First Cause Argument, while not proving God's existence, at least makes it intelligible (p. 121). As Ruse sees it, the Christian who wishes to answer the limiting question about ultimate origins by appealing to a "necessary being" is perfectly entitled to do so. Although there might be a whole host of metaphysical worries that need to be resolved regarding, for example, the status of this "necessary being," these are not *scientific* worries. So in the last analysis, argues Ruse, the traditional Christian who wishes to invoke God, the necessary being, as an answer to Primoridial Existential Question need not worry that this belief will conflict with science (p. 129).

Morality. Another area in which Ruse identifies limiting questions that invite a religious response is the area of morality. With respect to this question, is it worth reminding ourselves that Ruse himself has gone on record for endorsing ethical skepticism in the area of metaethics. According to Ruse, moral behavior and emotions are adaptations best *explained* by natural selection, but in the end there are no ultimate scientific or moral *justifications* for our moral beliefs (Ruse 1998, 250–58). All this might at first glance sound like bad news, especially to believers, but Ruse once again assures us that the Christian can take advantage of limiting questions in the area of metaethics by appealing to the nature and will of a perfectly good God. Now, although the believer's first inclination here might be to appeal to some sort of Divine Command Theory, Ruse is quick to remind us that command approaches to theological ethics run afoul of the Euthyphro Dilemma. If an action is right because God wills it, then we have the problem that God's command might render actions such as rape and murder morally obligatory. If, on the other hand, God wills an action because it is morally right, then there is a moral standard independent of God (p. 210).

In order to avoid this problem, Ruse recommends that the religious believer endorse the kind of Natural Law approach defended by Thomas Aquinas (p. 211). Unlike appeals to divine command, Aquinas, who follows

Aristotle in this regard, grounds moral requirements in human nature. In principle, claims Ruse, there is no reason why this general approach to theological ethics need to conflict with science. Of course, one must exercise caution here. Since the study of human nature is in fact one of the central areas of scientific inquiry—the domain of psychology, sociology, and anthropology—Ruse is quick to add that science might have something to say when it comes to substantive moral claims (pp. 212–14). The possibility of revision is always open. Yet surprisingly, Ruse's views here are quite conservative: aside from philosophers' worries about such dilemmas as the trolley problem, he suspects that on the whole believers and unbelievers will agree on most issues (p. 214). So, if the believer wishes to appeal to Natural Law to answer those limiting questions raised by metaethics, so be it. Ruse himself endorses ethical skepticism, but the believer is free to affirm a Natural Law ethics without worrying that these beliefs will conflict with science.

Mind. Another area of contention among scientists and philosophers involves questions concerning the human mind. Now, although scientists and philosophers have reached some consensus in their rejection of substance dualism, there is much disagreement when it comes to what David Chalmers has called the "hard problem" of consciousness (pp. 133–40). Some thinkers such as Daniel Dennett argue, pace Chalmers, that there is no particularly hard problem here and that consciousness can be explained as he himself claims to do in his well-known *Consciousness Explained* (1991). Others, more sympathetic to the kinds of worries that Chalmers raises about *qualia*, agree that even though we can be optimistic about "easy" questions regarding cognitive functioning, the question of consciousness might call for a radically different kind of science. Yet, others have followed Colin McGinn who raises the skeptical possibility that our minds are so constituted that the "hard problem" of consciousness might lie forever beyond our reach (pp. 178–80). Once again this kind of disagreement might sound like bad news, but as Ruse suggests, it provides the traditional Christian a perfect opportunity to appeal to the traditional doctrines of the soul as a response to limiting questions about the mind. In addition, Ruse once again suggests that believers might find resources in the thought of Thomas Aquinas, whose Aristotelian emphasis on the unity of body and soul conforms not only to contemporary science, which rejects dualist models of the mind, but also to the psychosomatic view of persons affirmed in the Bible. In the final analysis, claims Ruse, the Christian who affirms traditional teachings about the soul is responding to questions beyond the limits of science. There should be no worry about conflict.

Purpose. Finally, when it comes to what traditional theology calls "eschatological" questions about the ultimate meaning and purpose of human life, Ruse once again assures the Christian that there is room for traditional beliefs to the extent that they answer limiting questions not addressed by science. According to the traditional Christian picture, human beings do have an ultimate purpose: they were created in the image of God to enjoy everlasting fellowship in divine communion. Since Ruse believes that science cannot and does not speak to questions about meaning and purpose, Christian beliefs clearly fall outside its domain.

What about the Christian belief that this promise involves "eternal life?" If there is any belief that seems to conflict with science, it is the belief that human beings live forever. Ruse reminds us that the belief in immorality was a fairly late development in Jewish thought, and that when it does appear in the *Book of Daniel* it does not involve the Platonic belief in eternal disembodied souls, but rather the belief in a personal resurrection of the body (p. 225). At first glance, this might seem to make matters worse for Ruse's case: disembodied immortal souls are bad enough; but if anything would seem to count as an offense to modern science, it is the belief in immortal bodies. Ruse reassures the believer, however, that this need not be the case. One can salvage the traditional Pauline claim in 1 Corinthians 15 by suggesting that the resurrected body does not dwell in the physical natural world, but rather in another dimension. Since the resurrection world involves another dimension, science has nothing to say about it, one way or another: "If the claim were being made that, say, somewhere elsewhere in the universe we shall find Saint Paul and Julius Caesar and Napoleon and Charles Darwin—as mind alone or with bodies also—then as a scientist, one might be skeptical. But this is not the claim. It is rather that there is another dimension of existence where resurrected bodies exist—or minds, if that is all. It is the place of the spiritual body. As such, I doubt that science can lay a finger on the idea" (p. 228).

Before turning to a critique of Ruse's argument, it is important to point out that he devotes an entire chapter (pp. 149–80) to assess how these limiting questions might be addressed by those scientists, philosophers, and theologians who have attempted to resuscitate the organism metaphor. As Ruse points out, since the nineteenth century and Friedrich Schelling's attempt to work out a *Naturphilosophie* (pp. 150–54), both believers and nonbelievers have, on a variety of grounds, expressed a deep dissatisfaction with the machine metaphor and have defended instead a return to organism. Ruse sees an attempt to return to this model, for example, in the work of Stephen Jay Gould and Richard Lewontin who argue against the reductionism implicit in the mechanism metaphor and opt for a more holistic approach to evolution (p. 155). More recently, thinkers such as Stuart Kauffman and Brian Goodwin have revived the organism metaphor

by stressing the importance of the kind of self-organization that gives us "order for free" (pp. 157–60). Among those interested in philosophy of mind, Ruse points to the emergentism developed by George Henry Lewes, C. D. Broad, Samuel Alexander, and others (pp. 160–65). One might add that this paradigm has been recently revived by Philip Clayton, who is not only one of the movement's most eloquent spokespersons, but also a philosopher of religion who has identified emergentism as providing an important perspective for Christian theology. Finally, Ruse discusses the appropriation of the organism metaphor by James Lovelock, famous for his defense of the Gaia Hypothesis—that the Earth is itself best understood as an organism—and ecofeminists such as Caroline Merchant, both of whom have provided yet another paradigm for articulating and defending an environmental ethic (pp. 165–68).

Those sympathetic to the organism metaphor might complain that in assessing its resources for addressing the four fundamental issues; origins, morality, mind, and purpose, Ruse appears to give this model such short shrift. With respect to the question of ultimate origins, we should not be surprised that the organism metaphor is silent since the ancient Greeks, who first developed the model, believed in an eternal cosmos—though, of course, we can still always ask why there is an eternal universe rather than none (pp. 168–69). With respect to questions of morality and value, Ruse concedes that the organism metaphor seems to possess more resources for answering our questions. But even though it might provide grounds for the idea of intrinsic value in nature and for the idea that the world might increase in value as it grows, one might still ask limiting questions, e.g., "why is this something a thing of great value?" (p. 170). In the case of mind, Ruse observes that it might seem that the organism metaphor might provide a better model for understanding the mind; but even here, one can ask the question of why consciousness should emerge in the first place (p. 171). Finally, on the level of ultimate purpose, it might first appear that the organism metaphor should leave no questions unanswered since it is inherently teleological, and yet we can always ask whether there is an ultimate purpose for this world of purposes (p. 172).

Since the organism metaphor, like the machine metaphor, does leave some important questions unanswered, one might wonder why Ruse does not explore it in more detail. Ruse sums up his verdict by confessing that it does not seem that the organism metaphor does any real work that is not already done by the machine metaphor. So although he claims that the organism metaphor possesses a "certain richness" and "that it makes good sense as an overall world picture" (p. 176); there is no reason for science to give up on the machine metaphor that, as Ruse suggests, continues to do the "heavy lifting" (p. 175).

Critique of the Argument

"God of the gaps" redux? First, it goes without saying that Ruse has officially gone on record as rejecting any and all theological positions that appeal to "God of the gaps" arguments. Indeed, his ongoing crusade against all varieties of Creationism and Intelligent Design theory are based on his insistence that it is a mistake to invoke God as an explanation to fill the gaps left by science. For example, after offering his critique Michael Behe's infamous Irreducible Complexity Argument in *Can a Darwinian Be a Christian?*, Ruse sums up his concerns by suggesting that Behe's argument fails because it is just another "God of the gaps" argument: "The sad truth is that Behe is in the same boat as those physicists we dismissed earlier. He has offered us a freshened-up version of the old "God of the gaps" argument for the Deity's existence. A Supreme Being must be invoked to explain those phenomena for which I cannot offer a natural explanation. But such an argument proves only one's ignorance and inadequacy" (Ruse 2001a, 122).

One serious question raised by Ruse's own argument in *Science and Spirituality* concerns the status of the kinds of limiting questions to which he appeals in his attempt to articulate the separate domains of science and religion. Given his repudiation of "God of the gaps" type arguments, it might seem that he requires a way to determine, in principle, which kinds of questions cannot be answered by science. After all, if it were to turn out that today's unanswerable question became tomorrow's answerable, indeed *answered,* question, then the threat of the "God of the gaps" would re-emerge.

A strictly Kantian solution to this problem would be based on the claim that there are certain questions that are, in principle, beyond the scope of science. Kant himself, of course, drew this distinction by invoking his infamous but problematic distinction between the realm of the phenomena and noumena, the appearance and the thing-in-self. But there have been less drastic ways of attempting to articulate the domain of science, such as the many failed attempts in the twentieth century to formulate a demarcation criterion appealing, for example, to verifiability or falsifiability (Laudan [1983] 1996). Such routes, of course, are not open to Ruse who has famously and for good reasons repudiated his own earlier attempts in McLean v. Arkansas to articulate the proper domain of science by appealing to demarcation criteria.

What then is Ruse's alternative? Since there is no way to rule out *a priori* the possibility that today's unanswerable question might become tomorrow's answerable question, Ruse concedes that what might count as a limiting question is always open to change. In other words, there is no magic recipe to distinguish once and for all those questions within the

province of science from those that are beyond its limits because those questions are always changing:

> . . . there are certain areas that modern science not only does not answer but, as it is at the moment, does not even speak to. I am not saying that it could never speak to the areas—things like the previous century's work on the notion of life make me unwilling to make absolute statements—but I do not think that it does speak to them at the moment. It is not a question of trying and failing. It is more one of not being in the conversation. I shall argue that the Christian's claims fall within these areas, and so the Christian can, legitimately, try to speak to them." (pp. 182–83)

This is a crucial admission and one that seems to pose a problem for Ruse's argument. On the one hand, he rightly wants to guard against any attempt to define the domain of science by appealing to principles that might smack of demarcation criteria. On the other hand, he wants to avoid at all costs the appearance of a "God of the gaps" argument: he is on record for rejecting them on the grounds that they are "science stoppers" (Ruse 2001b). The problem is that there seems to be no way to avoid being impaled on one of these horns. Which horn is Ruse forced to choose? He seems to be forced to choose the "God of the gaps" in a new form: if what the Christian today assumes to be beyond the scope of science might turn out to be mainline science tomorrow, then today's article of faith might become the conclusion of tomorrow's "God of the gaps" argument.

In response to my worries, Ruse might claim that his argument does not run afoul of the "God of the gaps" problem because the Christian's beliefs are not intended to be explanations in the first place. If they are not intended to be explanations, then they do not compete with science. And if they do not compete with science, then there is no "God of the gaps" problem. For example, in response to the worry that miracles appear to conflict with science by offering supernatural explanations, Ruse is quick to point out that this need not be the case. In fact, he goes out of his way to distinguish the illicit appeal to miracles we find in arguments for Intelligent Design, which is pretending to do the work of science, from the religiously legitimate appeal to miracles by the religious believer (p. 207). But here again, Ruse's response raises a number of questions that deserve our attention. First, on what basis do we determine what constitutes a legitimate appeal to miracles and how exactly are such legitimate appeals to be distinguished from the illicit appeal to miracle made in Intelligent Design arguments? Second, the claim that religious beliefs are not intended as scientific explanations need not depend on claims about the limits of science. Other arguments, for example those inspired by Ludwig Wittgenstein's later work, might appeal to the suggestion that science and religion simply involve different "language games" or "forms of life" (Phillips 1976) without invoking any extra considerations about the limits of science. Now such views are quite familiar and have been

subject to much criticism over the years (Proudfoot 1985, 200–12); but if one accepts them, then anyone who wants to establish the independence of science and religion can do so without relying on an argument appealing the limits of science.

Limits or disagreements? This leads to another difficulty inherent in Ruse's strategy of trying to identify the limits of science, even when he restricts his task to the limits of science as it stands today. As it turns out, what Ruse sometimes offers as evidence for the limits of science as it stands today often turns out to be better construed as evidence for scientific disagreement as it stands today. Take, for example, Ruse's characterization of the mind sciences. His discussion is wide ranging, appealing to a variety of thinkers and positions—from Daniel Dennett and Paul and Patricia Churchland to David Chalmers and Colin McGinn. The disagreements are many and lively. The question, of course, is whether these disagreements entitle the believer to conclude that a religious response regarding the mind as soul is acceptable because science has reached its limits. I think not. In fact, one might suggest that such a response should be no more acceptable than attempts to defend Creationism or Intelligent Design by appealing to current scientific disagreements concerning natural selection. As Philip Kitcher has argued, there are indeed such disagreements (Kitcher 1982, 2007) that defenders of Intelligent Design exploit for their own purposes. But the proper response is not to concede that there is a problem with evolution that licenses belief in Intelligent Design, but rather that there is a lively debate among scientists about the extent to which natural selection explains everything about evolution. In the same way, I suggest that the proper response in the sciences of mind is not to fret about the limits of science but rather to grant that there is healthy disagreement about the nature and status of consciousness. But if this is the case, perhaps we should be a bit more circumspect before concluding that we have reached a limit to science that entitles the believer to endorse religious beliefs about the soul.

Finally, what role does philosophical reflection play in Ruse's discussion? While reading Ruse's argument, one sometimes gets the impression that when science runs out of steam, then the next step for the Christian is to explore the religious option. But surely, this cannot be correct and seems to be based on a false dilemma: either the question is one for science or it is beyond science and invites a religious response. Surely there are other possibilities including nontheological philosophical reflection. Although Ruse is aware of this possibility, he often raises it without giving it the attention it deserves. For example, after claiming that science cannot justify ethics, but before recommending to the believer the Natural Law option, Ruse identifies Kant as providing another possibility. The problem, claims Ruse, is that since Kant's project cannot work without some appeal

to human nature to provide moral content, it finally collapses into the kind of Humean position that he himself endorses (p. 209). But surely this assessment is a bit hasty; first because there are likely to be Kantians dissatisfied with Ruse's interpretation, and second because Kant is not the only philosophical act in town. Should not the believer be encouraged to explore other philosophical approaches to metaethical questions in addition to the Natural Law option? Once again, it could be that there are just too many other views and positions, too much disagreement and no way to decide. But even if we grant Ruse's point "that with nontheological metaethics, there comes a moment when the explanations have to stop" (p. 209), we might still wonder why the lack of consensus among philosophers, like the lack of consensus among scientists, should be license to endorse the theological option rather than a cautious skepticism.

Independence or subordination? Harkening to Ian Barbour's well-known fourfold classification—conflict, independence, dialogue, and integration (Barbour 1997, 77–105)—Ruse characterizes his way of relating science and religion in terms of the independence model. As Ruse's alter-ego Martin Rudge puts it in the dialogue *Evolution and Religion*, "science and religion speak of different things" (Ruse 2008, 23). In fact, Rudge goes so far as to suggest that people such as Richard Dawkins who reduce God talk to scientific talk about the material world are making a "category mistake," like asking whether Tuesday is tired (Ruse 2008, 24). So as long we are not talking about those Christians who endorse Creationism or Intelligent Design, where there *is* real conflict, but limit our attention to the orthodox Christianity articulated and defended in the Nicene tradition, there is no problem. As Ruse himself says, "the basic, most important claims of the Christian religion lie beyond the scope of science. They do not and could not conflict with science, for they live in realms where science does not go. In this sense, we can think of Christianity and science as being independent, and we can see that those theologians who have insisted on the different realms were right in their view of the science-religion relationship" (Ruse 2010, 234).

Throughout his discussion, Ruse reminds the reader that even though the believer is free to address those concerns that transcend the limits of science, there are still constraints on what counts as acceptable belief. So we should not be surprised to discover that Ruse rejects the sort of strong fideism we find in Tertullian, who claims that one should believe the claims of Christianity because they are absurd (p. 186) and aligns himself instead with the tradition of Anselm, who regards Christian belief as "faith seeking understanding." What is perhaps even more important, however, is Ruse's claim that the boundaries between science and religion must be constantly reassessed as well as his insistence that religious beliefs *are* subject to revision in light of the latest developments of contemporary science. In

other words, Ruse claims that although he is arguing for the independence of science and religion, this independence is qualified. By independence, he does not mean "separate but equal." Indeed, as he suggests throughout his book and finally makes explicit on the final page, religion is *subordinate* to science. For this reason it might be better to add another classification to Barbour's typology and call Ruse's model for relating science and religion the *Subordination Model*:

> Is it a sign of weakness that it is almost always going to be Christianity that must accommodate itself to the findings of science? Once it was possible to read Genesis fairly literally, because that was the direction in which the science pointed. Now such a reading is illicit. Once many thought that Saint Paul's views on women, on homosexuality, on slavery were fully acceptable. Now, in the light of modern social science, all these assumptions have been (and are still being) challenged and reevaluated. Things do not go the other way. No physicists working as physicists are going to be bothered by reinterpretations of the Trinity. (p. 236)

Ruse maintains then that traditional Christians should be ready to revise their beliefs in the light of modern science and provides some good examples to illustrate why this is so. One obvious question the traditional Christian might ask, however, is whether there are any limits to this process of revision. Ruse himself seems confident that the core of orthodox Christian belief as articulated in the Apostles' Creed and the Nicene Creed is quite stable. In other words, although the revision of peripheral beliefs is acceptable and to be expected, Ruse does not seem to expect challenges to those central Christian beliefs that he has established as lying beyond the scope of science. The question, however, is whether such confidence is warranted. Since, as Ruse himself insists, the boundaries between science and religion are open to revision in light of new scientific developments, there is no way to tell ahead of time which beliefs might be put at risk.

Where does this leave the believer? Interestingly enough, Ruse enlists the support of Søren Kierkegaard in support of his own critique of natural theology on the grounds that appeals to "God of the gaps" arguments leave faith vulnerable. If the believer's faith rests on arguments that could be revised in light of new evidence, then that believer's faith is at risk. For this reason, Ruse endorses the soft fideism of Kierkegaard "who argued that faith is genuinely faith only if it requires a kind of commitment beyond the evidence" (p. 232). Ironically, however, Ruse's subordination of religion to science also threatens to put the believer's faith at risk: if there is nothing to rule out the possibility that today's limiting questions might become tomorrow's scientific questions, then Ruse's strategy should remain just as unacceptable to Kierkegaard as natural theology.

Worries about mystery. Perhaps one of the most interesting aspects of Ruse's writings on religion and science is the extent he goes to

in articulating the theological options that are open to the believer. For example, after arguing that science cannot answer the Primoridial Existential Question and that the Christian is free to respond by believing in God, he undertakes an extended exercise in philosophical theology to demonstrate the reasonableness of the traditional concept of God. In the spirit of Anselm, he attempts to answer objections that God cannot be a necessary being by distinguishing between logically necessary being and factually necessary being (p. 190). Defending the scholastic position of Aquinas, who affirmed God's aseity, the claim that the divine essence entails existence; Ruse goes on to draw an analogy with mathematical Platonism. He suggests that if one grants that mathematical entities exist and that God is analogous to mathematical entities, then one should have no trouble accepting the conclusion that God exists as a necessary being (pp. 191–93).

In response to the many other puzzles that threaten to undermine religious belief, Ruse is eager and more than ready to provide possible theological solutions. In response to the problem of evil, he is not afraid to defend traditional theodicies by providing a revised version of the Free Will Defense, updated in the light Daniel Dennett's compatibilist account of freedom (pp. 199–201) as well as a variation of Leibniz's Defense for the problem of natural evil, revised in light of Richard Dawkins's claim that natural selection, with its attendant "evils," might be the only mechanism for evolution (pp. 201–02). Other more serious puzzles are generated by the Christian belief in the soul. How, for example, should the Christian understand the origin of the soul? Does the soul come into existence by God's miraculous act of creation at the moment of conception? If so, then how do we deal with the problem of twinning? If God infuses one soul at the moment of conception and twinning occurs, is the first cell best understood as possessing two souls potentially? Ruse asks: "Why not say rather that we have potentially one until sentience and thinking kicks in?" (p. 224). Finally, there is the problem of immorality that, as already mentioned, Ruse attempts to solve by invoking the suggestion that spiritual bodies or souls are not resurrected in this natural world but rather in another dimension.

What should we make of this proliferation of theological problems and solutions? Ruse is willing to grant that it goes with the territory and finally acknowledges what theologians have said for centuries: it is finally a mystery.

> The more one thinks about Christianity, the more problems seem to multiply. How on earth can a necessary being be a thinking being? How can God be outside time and yet have emotions of love and concern? How can God have left so many people outside the culture in which he is known and cherished? How can God, a father, truly value Hitler's free will over the suffering of Anne Frank at Bergen-Belsen? The Christian may have no explanations, but the Christian has an answer. God is infinite. We are finite. We get at most a half picture, images

through shards rather than the full views. "For now we see through a glass darkly; but then face to face: now I know in part; but then shall I know even as I am known" (I Corinthians 13:12). (p. 228)

At this point one might wonder whether Ruse has conceded too much to certain kinds of theological reflection. Although theological reflection is not science, one cannot help but sympathize with Daniel Dennett's complaint that there must be some constraints on this sort of reasoning; otherwise one ends up playing "intellectual tennis without a net" (quoted on p. 229). One way of cashing out this complaint is to point out that theological reflection often appears to be an attempt to preserve one's beliefs at all costs. In other words, because the aims of theology cannot be separated from the religious aim of preserving and nurturing one's religious conviction, it is not surprising that the result is often the proliferation of arguments intended to serve as auxiliary hypotheses. But without any independent support, these theological strategies begin to look more like exercises in *ad hoc* reasoning. And when all else fails, there is finally the appeal to "mystery."

It is interesting to note that C. S. Peirce, himself a religious believer, voiced similar complaints against the excesses of theological reflection. In attempting to defend scientific metaphysics as a genuine enterprise, Peirce realized that he must first address the bad reputation that metaphysics has acquired over the years because of its traditional alliance with theology. In the course of his critique, Peirce admits that theology's problem begins when it attempts to do the job of science, a point with which Ruse would most certainly agree. However, Peirce also makes the additional and separate claim that the *motivations* that underlie theology are often at odds with scientific inquiry. Much in the same spirit as his contemporary W. K. Clifford, Peirce seems to worry whether theological reflection is consistent with the ethics of genuine inquiry.

> But, as far as I can penetrate into the motive of theology, it begins in an effort of men who have joined the Christian army and sworn fidelity to silence the suggestions of their hearts that they renounce their allegiance. How far it is successful in that purpose I will not inquire. But nothing can be more unscientific than the attitude of minds who are trying to confirm themselves in early beliefs. The struggle of the scientific man is to see the error of his beliefs—if he can be said to have any beliefs. The logic which observational science uses is not, like the logic that the books teach, quite independent of the motive and spirit of the reasoner. There is an ethics indissolubly bound up with it—an ethics of fairness and impartiality—and a writer, who teaches, by his example, to find arguments for a conclusion which he wishes to believe, saps the very foundations of science by trifling with its morals. (Peirce 1931–1958, 6.3)

So even though one might be able to establish that the substance of religious belief, as articulated by theology, does not conflict with the substance of contemporary science, Peirce's observation here raises a deeper worry. Because the goals, motives, and attitudes that shape scientific

inquiry differ from those that shape theological reflection, the scientist's "ethics of belief," to use Clifford's phrase, will be quite different from the "ethics of belief" of the theologian. And although there is no logical contradiction or inconsistency here, there does seem to be a pragmatic tension for the conduct of life and inquiry that needs to be resolved. So in the end the question still remains: can the aim of committed faith and the aim of fallible inquiry be brought into harmony?

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