

(see esp. chaps. 5 and 6), but one poignant turning point in Gluck's "ethical journey" serves to illustrate the kinds of dissonances with which he grappled. He credits a stray dog with bringing "warmth and a focus of care beyond my self-centered attention" into his home and marriage, and further describes the extraordinary efforts he and his wife took to care for this German shepherd mix. The costs in time, money, and convenience were considerable, even to the point of buying a house with a yard to accommodate the new pet. He admits that the sharp contrast between domestic and professional behavior, between his efforts to keep a dog contented and healthy and his daily treatment of animals in the lab, proved startling. Beyond providing clean cages and fresh food, the comfort of those animals was "not an issue" (pp. 131–32). Other pangs of conscience would follow.

The use of animals for scientific advancement is a polarizing subject, of course, and frequently those invested in the debate one way or the other speak past one another. One thing made clear in the book, however, is that altruism motivates those on both sides. Those wanting to empty the laboratory cages altogether often insist that any knowledge gained by experimenting on living animals is ill gotten. But Gluck reminds us that compassion motivates many working in research facilities too. He writes movingly about his father and the "life-destroying repercussions" of early onset Parkinson's disease that transformed his life and the lives of other family members caring for him (p. 21). Watching his father's struggle "weighed heavily" on his mind, contributing to his interest in neuroscience (p. 171). He also refers to the anxiety and depression that "plagued" his sister and grandmother, which also explained in part his career choices (p. 40). This insider's account of his educational formation, and professional and personal motivations, is potentially a bridge builder by helping those on opposite sides of the animal ethics question to find common ground in compassion. He writes knowingly of the concerns of both. One stated aim is to help protectionists better understand what he calls "the scientists' plight" and to thereby encourage more effective dialogue with them (p. xiv). Gluck writes as a scientific insider, as a one-time practitioner of the animal research methodologies he now critiques.

Gluck worked as a behavioral scientist from the 1960s through to the 1990s but eventually left this work to devote himself to the complexities of animal research ethics. This was no easy decision. (To illustrate his intellectual reservations, see, e.g., pp. 157–60, regarding his first response to Peter Singer's seminal work *Animal Liberation*). Some colleagues were suspicious

of the "turncoat" who changed sides (pp. 280–81), but this double perspective is what makes this book so fascinating. It is easy for scientists to mock the emotional outbursts or sentimentalism of sometimes-shrill advocates who, they insist, do not understand the importance of scientific inquiry and the costs of progress. At the same time, those advocates often caricature all those working in laboratories as insensitive sadists. What we find here is a beautifully told story of one who sees the issues from both sides, who challenges both stereotypes, and in the process, presents compelling reasons to consider the animal's point of view, which is a key concern in the unfolding argument (e.g., pp. 38, 147–50). His extensive work with laboratory animals, which he describes with often-disturbing detail, assures him an audience with others doing similar work. At the same time, what he describes as his "ethical awakening" (pp. xiv; cf. 143–52) is a remarkable turn toward animal compassion sure to inspire advocates.

The book urges animal welfare reform. Gluck has much to say about institutional animal care and use committees (IACUCs), and he puts forward ways for them to improve how they operate (xiv; chap. 7). He argues that philosophical analyses of animal ethics and political and institutional regulations alone do not result in significant protections for animals unless certain conditions inform the work of IACUCs. Heading a list of eleven such conditions (pp. 279–80) is the crucial need for committee members to value animal lives "at least as much as they value animals' usefulness in research." This captures well the argument put forward in the book.

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## HISTORY OF SCIENCE

**GOD IN COSMIC HISTORY: Where Science and History Meet Religion** by Ted Peters. Winona, MN: Anselm Academic, 2017. 356 pages, index. Paperback; \$39.95. ISBN: 9781599828138.

History is getting "bigger" these days. To be sure, universal history, the attempt to provide a single overarching story of the past, received considerable popular attention in the mid-twentieth century with massive multivolume projects by the likes of Arnold Toynbee and Will and Ariel Durant. Dismissing such universalist approaches as too speculative, academic historians focused instead on monographs dealing with much smaller chunks of the past. So many historians became enamored with increasingly smaller-scale, even microhistorical, studies that the

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story of the past became fragmented. Fortunately, some historians recognized that larger-scale historical narratives were needed to make sense of the past. In the 1960s and 1970s, world history, which examined the five or six thousand years of recorded human history, emerged as a distinct subdiscipline. Large-scale historical analysis gained further momentum in the 1980s and 1990s with attention given to varieties of global history. Then, in the 2000s, a new approach to the past emerged that dwarfed all others: so-called “big history” – the grand unified story of natural and human history. This amounts to situating human history in the context of the vastness of nature’s history. Big historians engage in breathtaking syntheses that tell the story of everything from big bang cosmology, the formation and drift of galaxies, the origins of Earth, the origins and evolution of life and the biosphere, human evolution, prehistory, the emergence of agriculture, settled communities, agrarian civilizations, global networks of exchange, the birth of the modern world, and the “great acceleration” of the twentieth century.

Big history would seemingly be the most expansive approach imaginable. However, theologian Ted Peters now advances something even grander: cosmic history. This is big history with God added or, more accurately, with the human quest for God front and center. For Peters, the central question is whether God is the author of the cosmic story. Consequently, he interrogates history from a theological perspective in order to “illuminate dimensions of reality missed by other historians” (p. 18). He pointedly asks supra-cosmic questions of ultimacy that world and big historians avoid or answer only in the limited manner warranted by their allegiance to naturalism and scientism.

The reader may find the organization of the book to be challenging, despite Peters’s several attempts to state his main themes. Chronological (in the broadest sense of the term) and thematic discussions interpenetrate his analysis. The first part of the book ranges widely over typical big history topics: big bang cosmology, the origins of our universe and planet, the evolution of life on Earth, prehuman and human ancestors, and ancient myths of origins. Then, rather abruptly, Peters shifts his attention to a number of thematic topics: models of nature, the anthropic principle, design, determinism vs. contingency, and multiverses. The main point of this first half of the book is to argue that the big historians’ strictly scientific account of natural and human history fails to render a full account of reality—even though the “question of God is unavoidable, even within science” (p. 159).

In the second part of the book, Peters explores selected topics in world history that reveal how our predecessors engaged the question of God. He draws heavily on the work of three eminent scholars: sociologist Robert Bellah, philosopher Eric Voegelin, and systematic theologian Paul Tillich. Peters emphasizes the notion of an axial age breakthrough introduced by psychiatrist-philosopher Karl Jaspers in *The Origin and Goal of History* (1949) and developed more recently by Bellah in his monumental *Religion in Human Evolution* (2011). The axial age is a conceptual label given to the emergence of several great religious/intellectual traditions in China, India, and the Mesopotamian-Mediterranean region between 800 and 200 BCE. The axial breakthrough involved revolutionary insights into a mysteriously transcendent reality that gave rise to a reordering of “self, society, and the cosmos” (p. 20). Peters correctly maintains that in bracketing out the God question, big historians fail to appreciate that the axial breakthrough constituted an epochal “leap in human self-understanding” that fundamentally altered human consciousness.

In this second half of the book, Peters examines axial answers to the God question in the light of contemporary challenges such as astrobiology and the search for extraterrestrial life, transhumanism, and the global eco-crisis. He discusses a dizzying array of topics ranging from war and models of God to the evolution controversy and a just and sustainable future for the planet.

Peters concludes with a provocative Afterword in which he summarizes his case for cosmic history. It is well worth listing several of his key points: the cosmos comes to us as a divine gift; humans have a “built-in ontological thirst that can be slaked only by ultimate reality” (p. 328); asking the God question is justified even though it is not addressed by world and big history; history from the cosmic perspective is “the stage on which the drama between God and creation is played, a drama still awaiting its final act” (p. 330); and historians need to pay heed to God’s grace.

*God in Cosmic History* is a curious book. It appears to be a textbook (complete with review and discussion questions at the end of each chapter) for an expansive, upper-division interdisciplinary course. Though it is surely historical, the book really cannot be categorized as history in its traditional academic sense. It raises, however, profound methodological issues that most historians (“big” or otherwise) ignore and that even believing historians generally consider to be beyond their warrant as historians.

*God in Cosmic History* is probably best understood as a manifesto for a comprehensive story of reality that goes beyond big history to include the God question. Whether cosmic history has the potential to develop into a robust new field remains to be seen. If that is the goal, the project of cosmic history might find a receptive audience among those historians—few in number, perhaps—who question the rigid materialism and anti-supernaturalism of an academic history that cannot countenance the notion that “the transcendent has broken into time.” At the least, cosmic historians would do well to draw from the considerable literature of believing historians who have wrestled with variations of the God question for decades.

Regardless of how one categorizes the book or assesses the potential of cosmic history, it is an ambitious undertaking from which scholars and general readers will benefit.

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**DARWINISM AS RELIGION: What Literature Tells Us about Evolution** by Michael Ruse. New York: Oxford University Press, 2017. 310 pages. Hardcover; \$34.95. ISBN: 9780190241025.

Given the title *Darwinism as Religion*, we expect Michael Ruse’s latest book to provide a critical, historically based assessment of how Darwinism has, since the publication of *On the Origin of Species*, taken on the forms and roles inhabited by religion—as a source of meaning and a guide to human morality, as a lens through which to view the “big” questions of meaning in life. In his preface, Ruse suggests that he wants to examine “evolution through the lens of literature, fiction and poetry,” noting that he is “not using evolutionary thinking to analyze literature but seeing the influence of evolutionary thinking on literature and from this drawing conclusions” (p. x–xi). Later, Ruse asserts that this “is a story about evolution in opposition to religion, the Christian religion” (p. 36). Further, “Darwinian evolutionary thinking ... became a belief system countering and substituting for the Christian religion: a new paradigm” (p. 82). While Ruse includes chapters on God, Morality, Sex, and Sin and Redemption, what is meant by “religion” is never entirely clear, although he seems to have in mind some rather generic form of evangelical Protestantism, which is, at times, reduced to caricature. Even so, “religion” frequently goes missing from the discussion for pages as a time, leaving

one to wonder: “And what exactly does all this have to do with religion?”

The subtitle, *What Literature Tells Us about Evolution*, adds to the confusion. Does the author mean to suggest that literature can actually help us understand the science of evolutionary theory? Does he want to assess the historical reception of evolutionary theory as evidenced in literature? Or does literature itself provide evidence of an evolutionary process as the human mind comes to grips with the random, pointless nature of existence? The reader is never quite sure. The author apparently feels no obligation to make his argument clear in what he aptly terms a “collage” (p. x) but instead leads his reader on an idiosyncratic journey through the “writings that have filled [his] life with joy and inspiration” (p. xi). His joy seems to have been found primarily in the work of Thomas Hardy, one of the bleakest literary translators of Darwinism, whom Ruse sees expressing

something in the world without the Christian message of hope. And time is an essential part of this. We are of the Earth. We came from it. We go back to it. That is all there is. Time goes on. There is no meaning, at least not in any conscious, Christian sort of way. (p. 105)

The breadth of Ruse’s reading is clearly epic: it appears that he has intimate familiarity with most popular fiction and poetry written in the nineteenth century (in both Great Britain and America), and to a large extent with the transatlantic literature of the twentieth and twenty-first centuries. He admits,

I am absolutely staggered at the amount of material I have found pertinent to my inquiry and hugely impressed at the sophistication and sensitivity of the massive corpus of secondary material. (p. xi)

If nothing else, Ruse leaves the reader feeling similarly overwhelmed. While he does provide frequent plot summaries (which can sometimes seem reductive), in general, Ruse assumes that the reader has a similarly encyclopedic understanding of this material. He dips in and out of novels and poems continually—Browning, Dickinson, Yeats, Huxley, Eliot, Stevenson, Meredith, Norris, Kipling, Twain, Kingsley, Rossetti—returning frequently to major figures, especially Thomas Hardy, in the various subchapters. The result is that we receive no coherent analysis of any one text in its historical context, but instead we find scattered notes, which presumably are connected to the topic named in the chapter title. This constant oscillation among authors adds to the incoherence of the book.

Another persistent fault of the book lies in its inadequate grasp of the principles and conventions of literary analysis. At the most basic level, this involves