



ENVIRONMENT

TENDING TO EDEN: Environmental Stewardship for God's People by Scott C. Sabin. Valley Forge, PA: Judson Press, 2010. 174 pages. Paperback; \$18.00. ISBN: 978-0817015725.

Caring about the poor finally seems to be a mainstream concern in the large, suburban, evangelical churches of North America. While this caring is directed at poverty—both local and distant—we tend to have more contact and experience dealing with the poor in our own towns and cities. The poverty in other countries that we may see on the news or read about in other media seems more extreme and perplexing. What, exactly, do poor subsistence farmers in Africa, Asia, or Latin America need? How can our efforts make a difference, producing opportunities rather than dependency, for those we would like to help in the name of Jesus?

Scott Sabin, director of Plant with Purpose, sets out to answer these questions in *Tending to Eden*. Sabin has much experience working with small farmers in the Dominican Republic, Central America, and elsewhere, and his answers will challenge. Sabin locates poverty in a web of broken relationships: with God, neighbors, self, and with creation. He outlines the work of justice in repairing these relationships, which he argues is best done simultaneously—all levels at once.

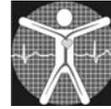
Since mission and development work has often overlooked the broken relationship with creation, Sabin helps readers envision what this could look like, constantly anchoring his ideas with stories of the lives of villagers in the developing world. The daily dependency of these billions of people on productive soil, flowing springs, and healthy forests makes the inclusion of creation care urgently necessary in any program of community development.

Of course, all of us are dependent on these things, but as North Americans we tend to underestimate our dependency. We also tend to grossly underestimate our own role in causing the environmental problems that disproportionately impact the poor. Sabin devotes the second half of the book to showing how our own relationship to creation is broken. What would it look like for us to live out the gospel as good news for the poor, and for all creation? The book ends with many practical ideas for how we can stay motivated and make a difference, repairing relationships both locally and globally. This holistic approach unites rich and poor in a common cause. At the same time, we have to admit that as North Americans we have more choices available to us, and therefore we have a greater responsibility to act.

What will Christians gain from reading this book? For those who are already green, most will get a more international perspective. For those hearing God's call to serve the poor—if they realize this book is written for them—they will be challenged to respond more holistically and effectively. (For both groups, Sabin includes a Bible study for small groups.) Some chapters are less interesting to those not managing Christian development

organizations, especially a fairly technical one about sustainable agriculture and forestry methods. However, it is important to realize that, given the right opportunities, the poor can and will find ways out of poverty while protecting creation.

Reviewed by David O. De Haan, Associate Professor of Chemistry, University of San Diego, San Diego, CA 92110.



HEALTH & MEDICINE

PARTNER TO THE POOR: A Paul Farmer Reader by Haun Saussy, ed. Berkeley, CA: University of California Press, 2010. 662 pages, index. Paperback; \$27.50. ISBN: 9780520257139.

Paul Farmer is best known for his work as the founding director of Partners in Health. Through this organization, Farmer has demonstrated the need to provide medical care to the poorest and most vulnerable people on Earth, such as HIV-AIDS patients in Haiti and TB patients in Russian prisons. But even more, he has demonstrated the feasibility of providing care for these persons when one holds a clear ethic of justice and equity and a conviction that health care is a human right. This reader is an argument for these convictions.

Partner to the Poor is one in a series published by the California Series in Public Anthropology. The twenty-five readings included are previously published material, organized in a chronological manner, but also by theme. The three themes are Ethnography, History, and Political Economy; Anthropology amid Epidemics; and Structural Violence. The readings are not scientific publications, but read more like an exposé of a besetting health-care injustice, followed by stories of his experiences in seeking to redress that issue, and then concluding with his straightforward recommendations for how the world and health-care organizations should change the way they function in response to this heightened awareness. For example, after exposing the problem of TB among Russian prisoners, he then goes on to argue that TB is as much punishment for these people as is their incarceration.

Farmer is eminently qualified to straddle the disparate worlds of power and wealth over against poverty and inequality. His professional life has been spent nearly equally between the developing world (Haiti, Peru, Rwanda, Russia, and inner city Boston), and the academic setting in which he works in Boston, at Harvard University and Brigham and Women's Hospital. For those who enjoyed the Farmer biography, *Mountains beyond Mountains: The Quest of Dr. Paul Farmer, a Man Who Would Cure the World* by Tracy Kidder, the present book would be a good next step toward fully appreciating the ideology that drives him.

Farmer shares economist Jeff Sachs' argument that developing countries need more aid money. Working in the field of global health myself, I am sympathetic to his argument, but the recent book *Dead Aid*, by African Dambisa Moyo, shows that this point is arguable. ASA readers will also notice that Farmer's approach to ethics and justice is highly relativistic. For example, we are

Book Reviews

meant to sympathize with drug-addicted HIV-AIDS patients as victims of *structural violence*, in which the individual is absolved of personal responsibility for her or his condition.

The book is not one sustained argument; individual readings can be read alone. However, for readers new to Farmer, one or two essays alone are unlikely to draw one in to the ethos and perspective that is unique to Farmer. The section New Agenda for Health and Human Rights, beginning on page 457, is meant to guide our thinking on global health, but is equally needed in the USA as we continue our national debate on health-care reform. Sections of this book should be required reading in all schools of public health.

As a compilation, the book can be a bit repetitive. For example, the history of Haiti is introduced several times. Additionally, the focus on Haiti, which is a rather unique country, left me wondering at several points whether his conclusions can be applied to the majority of the countries in the world who do not share Haiti's convoluted and tragic history.

Farmer is as effective as a politician as he is as a scientist. Although he patches together evidence to buttress his arguments, most of his arguments are made through highly personal stories and anecdotes. I could not help but see the similarity he bears to missionaries who are likewise driven by a passion for their cause, and often too busy to do the critical evaluation necessary to validate their work, and so resort to moving stories. On the other hand, his mastery of the literature in politics, history, medicine, anthropology, and public health allows him to make solid arguments with persuasive, multidisciplinary defense. He has coined highly communicative phrases such as *structural violence*, *stupid deaths*, *microbial El Nino*, and *socio-medicine*. His writing is highly engaging and intellectually satisfying. His writing style is one which ASA authors might emulate in seeking to make our cause known in a more accessible way to a wider public.

Reviewed by Mark A. Strand, China Director, Shanxi Evergreen Service, Shanxi Province, China.



ORIGINS & COSMOLOGY

THE GRAND DESIGN by Stephen Hawking and Leonard Mlodinow. New York: Bantam, 2010. 181 pages, illustrations, glossary, index. Paperback; \$28.00. ISBN: 978-0533805376.

Stephen Hawking's *A Brief History of Time* remains a top seller after 22 years, paralleling his surprising longevity with amyotrophic lateral sclerosis. This new book, written with Mlodinow (also a theoretical physicist and trade-book author), despite its grand claim, says little new, except for providing a surface-level update on the speculative M-theory as well as joining the fashionable trend of Dawkins and Hitchens in providing naïve jabs at religion (and the ID community).

The book provides an accessible and at times witty introduction to a few of the distinctive characteristics of quantum physics, largely in the style of Feynman's *QED*:

The Strange Theory of Light and Matter (Princeton, 1985). Its emphasis is on the (questionable) application of a sum-over-histories interpretation of quantum theory to the universe as a whole, and how this indicates that the Theory of Everything—that “holy grail of physics”—is unattainable as a result. The authors usually present the details of physics reasonably well, but at times one wonders why connections are not made. For example, they mention that the smallness of Planck's constant results in the phases of neighboring paths varying wildly (p. 78 f.), but fail to point out that this is due to division by this small value. Many of the glossy color figures are misleading or unclear; for example, a graph (p. 92) shows two waves supposedly representing red and violet light with no indication of what is actually being plotted on either axis. As such, experts are at best reminded of basic QED while others are left with the perception that physics is weird and difficult.

Half of the *The Grand Design's* chapter titles invite, but disappoint, the curious reader: The Mystery of Being, What Is Reality? Choosing Our Universe, The Apparent Miracle. Hawking and Mlodinow approach deep spiritual, metaphysical, ontological, and existential questions, but instead of seriously engaging them, they apply superficial physical-reductionistic answers. This is not surprising, given Hawking's habit of ridiculing religion as outmoded myth, but it is sad nevertheless; I had hoped that he and Mlodinow would have learned from both atheist and Christian critiques of Dawkins and Hitchens. Apparently there remains a significant market for sloppy dismissal of anything to do with faith.

A key element of the book is its introduction of “model-dependent realism,” a new word for the old idea of instrumentalism of which they are apparently unaware, saying that “it is pointless to ask whether a model is real, only whether it agrees with observation” (p. 46). They awkwardly advance their self-defeating idea that “model-dependent realism solves, or at least avoids ... the meaning of existence” (p. 47) while ironically claiming that humans employ the notion of object permanence because it “is much simpler [than alternatives] and agrees with observation” (p. 47), not because it is the real state of affairs. As a result, Hawking and Mlodinow cannot tell the difference between model and reality; for them, these are one and the same. Because one can imagine multiple universes each with its own set of physical laws and constants, these multiple universes necessarily exist. Much more sensible, even under M-theory, is critical realism, which asks the question of whether the model does a reasonable job of describing or explaining reality all the while acknowledging that reality comes at us through the mediation of our inherited or devised conceptual frameworks. Their conflation of model and reality also appears in their helpless comments regarding Genesis and the big bang. Instead of critiquing the idea of some that “Genesis is literally true even though the world contains ... evidence that makes it look much older” (p. 50), they say that “neither [this nor the big bang] model can be said to be more real than the other” (p. 51). The question is not whether a model is real, but whether it faithfully represents reality.

Hawking and Mlodinow display extreme philosophical and theological naïveté beginning with their announcement that “philosophy is dead” (p. 5). They characterize

the notion that “the laws were the work of God [as] no more than a definition of God as the embodiment of the laws of nature” (p. 29), suggest that “scientific determinism ... is the modern scientist’s answer” to the question of miracles (p. 30), reductionistically claim “we are no more than biological machines and ... free will is just an illusion” (p. 32), ask very poorly formulated questions such as “Did the universe need a creator?” (p. 5) and write that a “model is a good model if it ... [a]grees with and explains all existing observations” (p. 51)! The authors show no evidence that they have taken so much as a quick glance into the pages of any academic journal on these topics.

The authors like to poke fun at Christianity, usually painting simplistic pictures. They equate biblical belief with young-earth creationism, for them sufficient to dismiss the Bible. More significantly, they get the Condemnation of 1277 wrong, saying that “Bishop Tempier ... published a list of 219 errors or heresies that were to be condemned [including] the idea that nature follows laws, because this conflicts with God’s omnipotence” (p. 24 f.). In fact, it was the logical necessity of the laws of nature taking their specific forms, not the idea of laws of nature *per se*, which was being condemned; by God’s choice they could have been otherwise. [For more on this, see Russell Maatman, “The Galileo Incident,” *PSCF* 46, no. 3 (1994): 179–82.] Curiously, that the world could have been otherwise is precisely the point of Hawking and Mlodinow in this book, except that for them there is no god and every possible universe actually exists. It is indeed unfortunate that some who correctly acknowledge God as the Law Giver believe that the specific form of natural laws is an emanation of God’s nature, or of logical necessity the only possible laws, and thus deny God’s sovereignty. God chose to create this particular world in this particular way and was not bound by his own nature or by “nature” itself in the manner of his creation; however, once having created, God commits himself to a faithful sustaining of reality. The authors promulgate a false dichotomy, writing that “eclipses were not dependent on the arbitrary whims of supernatural beings, but rather governed by laws” (p. 15), ignoring the Christian recognition that patterns show the faithfulness of the divine Law Giver, recognized by scholars as a key driver of early modern science.

Perhaps the most striking example of unsophistication outside of physics is the authors’ oft-repeated claim that science shows that laws can produce universes apart from a Creator: “Because there is a law like gravity, the universe can and will create itself from nothing ... Spontaneous creation is the reason there is something rather than nothing, why the universe exists, why we exist” (p. 180); “M-theory predicts that a great many universes were created out of nothing. Their creation does not require the intervention of some supernatural being or god. Rather, these multiple universes arise naturally from physical law” (p. 8 f.); “the beginning of the universe was governed by the laws of science and doesn’t need to be set in motion by some god” (p. 135). Clearly, these laws and theories function for the authors as an unarticulated divine self-existence and omnipotence, rather than human formulations of divine providential faithfulness.

The goal of the book was to answer “the Ultimate Question of Life, the Universe, and Everything,” which they

state as: “Why is there something rather than nothing? Why do we exist? Why this particular set of laws and not some other?” (p. 10). These are good questions, but scientists and the general public, Christian or otherwise, will not receive reliable answers in this failed attempt by Hawking and Mlodinow.

Reviewed by Arnold E. Sikkema, Associate Professor of Physics, Trinity Western University, Langley, BC V2Y 1Y1.

THE PRISM AND THE RAINBOW: A Christian Explains Why Evolution Is Not a Threat by Joel W. Martin. Baltimore, MD: Johns Hopkins University Press, 2010. 107 pages, appendix, notes, recommended reading, helpful websites, index. Paperback; \$20.00. ISBN: 9780801894787.

Joel W. Martin offers a book to an audience of students and parents (and presumably to other nontheological experts). Its purpose is to make a case supporting the thesis that evolutionary biology is consistent with Christian theology, and further, that evolution supports major biblical themes. Martin also wants to inform his readers of the nature of science, some areas of past conflict (and eventual resolution) between science and faith, and some cautionary advice for Christian laity in their Bible reading as they attempt to discern the Bible’s message to us today. In our opinion, Martin does all of this effectively in a concise package.

Martin, Chief of the Division of Invertebrate Studies and Curator of Crustacea at the Natural History Museum of Los Angeles County, specializes in systematic biology. He is also active in church youth work.

Martin opens the book with a claim that most American Christians regard the scientific status of evolution as valid and not in conflict with faith. However, he uses statistics that he has personally gathered, and admits that they fall short of representing all of Christian opinion. His conclusions are contrary to public opinion expressed, for example, in Gallup and Barna polls, that seem to indicate a more substantial number (if not a majority) of American Christians find evolution and Christianity incompatible. However, the value of the book does not depend on Martin’s accurate assessment on this question. We believe that he is correct in concluding that there is enough confusion on this issue of science and faith to warrant careful analysis and response, and that is what Martin focuses on for the remainder of the book.

Martin sets the stage by discussing three examples: the rainbow, the idea of a flat earth, and the handling of poisonous snakes. Later on, he discusses the Galileo controversy with the Catholic Church. In each of these, science and faith play important roles, and considering these examples can illuminate both helpful and unhelpful ways of approaching questions involving science and Christian faith. Martin refers to these examples as he examines the debate surrounding evolution.

He then discusses the nature of science, and carefully specifies the meaning of certain scientific terms that are misunderstood by a significant number of the non-scientific public – terms such as fact, hypothesis, law, rule, and theory. Martin is correct that confusion about these

Book Reviews

terms has led to some unfortunate misunderstandings and invalid conclusions about the status of certain scientific work important to faith issues. His discussion is especially helpful here, and it clearly elucidates one of the more serious problems contributing to the science/faith conflict.

Chapter 7 follows with a summary of important characteristics of the science of evolution. He points out that there is no controversy within the scientific community regarding the occurrence of evolution. Yet he admits that there is much still unknown, and that evolutionary science remains an active area of research. Martin highlights what he considers the principal stumbling block facing Christians when considering evolution—namely, that evolution represents a threat to religion, and especially to Christianity.

In the next three chapters, Martin analyzes and evaluates two classes of responses by a significant number of Christians to this perceived threat—creationism and intelligent design (ID). He suggests that arrogance may play a role in these Christians' opposition to evolution, and he suspects that a similar arrogance seems to have played a similar role in the Galileo/Church conflict about heliocentrism, a scientific finding which the Church eventually conceded was not a threat to Christianity.

He advocates a careful assessment of creation in the Bible, giving emphasis to the two accounts in Genesis 1 and Genesis 2. Martin understands the Bible to advocate unity, and finds that the characteristics of nature, as pointed out through evolutionary science, are completely consistent with the biblical call to unity found in Genesis' creation material.

In the concluding chapters, Martin expresses fear that youth growing up with creationist or ID teaching may face crises of faith. He feels that when the anti-evolution stance that forms the core of creationist and ID thought is challenged by college science courses, many of these youth will feel compelled to abandon their faith, or else decide that contemporary mainstream science is invalid. Martin would prefer that evolution and Christian faith be understood to complement one another, rather than conflict. Martin then gives some positive steps that Christians can take in resolving the science/faith conflict, such as serious study of the Bible and the biological sciences, acquiring the ability to discriminate between science and non-science, and not fearing the acquisition of knowledge or the use of one's mind.

Martin concludes his book with the claim that evolution is the best evidence we have for the existence of God.

What do we find useful or helpful in *The Prism and the Rainbow*? First, the book is written in a style that is compact and readable by Christian laity—in fact, by any interested person. No science or theological background is required for a person to get Martin's main points. Furthermore, the book is short enough to be read in one modest sitting, a real advantage for busy people.

In our opinion, Martin presents accurate portrayals of the scientific enterprise, the state of the game in the evolutionary biological sciences, the meaning of the creation message in Genesis 1 and 2, the threat that some Christians

see in evolution, and the science/faith conflict positions of creationism and intelligent design. In each of these cases, he communicates his position with clarity. He gives cogent advice at the book's end on how an individual could best proceed to investigate the issues raised. And the danger he points out in advocating or teaching anti-evolutionary ideas to youth (or anyone) is something all people should carefully consider.

There are, however, a few negatives. As mentioned earlier, Martin's conclusions about American Christian opinion on science/faith issues may be faulty. In addition, some readers may be put off by Martin's use of the Flat Earth Society and snake handlers as examples of misuse of the Bible. These are weak examples of such biblical misuse and are hardly good analogies to support his point that many Christians also misuse the Bible in their rejection of evolutionary science. To the degree to which he does this, Martin might be accused of the fallacy of weak analogy. Finally, the book is so concise that the inclusion of more details, especially on helpful Bible reading and the presentation of creation in the Bible (including passages other than those in Genesis) would be useful.

Overall, we recommend this book, not so much for those who have experience in thinking about science/faith issues, but for those of less experience. It is especially suitable for college-age youth. We will suggest this book to our inquiring friends.

Reviewed by Richard F. Carlson, Research Professor of Physics, University of Redlands, Redlands, CA 92374 and Jason N. Hine, Environmental Systems Research Institute, Redlands, CA 92373.



PHILOSOPHY & THEOLOGY

DEFINING LOVE: A Philosophical, Scientific, and Theological Engagement by Thomas Jay Oord. Grand Rapids, MI: Brazos Press, 2010. xiii+ 225 pages. Paperback; \$29.99. ISBN: 9781587432576.

Thomas Oord is professor of theology at Northwest Nazarene University and ordained in the Nazarene church. Having already contributed richly to current discussion on the nature of love, his work will be familiar to many ASAers. In this book, he provides both an extensive review of the scientific research and theory germane to the topic of human love, and a rationale for continued research on factors contributing to altruism. His theology places love at the center as the most important, necessary, and essential attribute of God's nature. God cannot *not* love. In the first two chapters, Oord reviews previous theological and philosophical positions while providing us with his own definitions of agape, eros and philia. In contrast to Anders Nygren and other theologians who hold that God only expresses agape, Oord sees all three types contained in God's full-orbed love. Hence all three types of love are good and should be expressed by creatures in God's image.

Oord's later theological conclusions depend heavily on his definition of agape as "intentional sympathetic response to promote overall well-being when confronted with that which generates ill-being" (p. 43). A corollary of this definition is that God's agape—necessary and

essential to God's nature—must be expressed from eternity in relation to something outside the Trinity. In contrast, traditional theology views God's love as existing eternally between the persons of the Trinity. As Oord defines agape, however, the persons of the Trinity can only express *philia* within their relationship, because there can be no ill-being within the divine unity. This definition thus allows Oord, in the last chapter, to characterize God's essence from eternity as necessarily creative and in continual relationship with an outside, albeit dependent, creation. Oord insists this relationship is panentheistic rather than pantheistic because creation, although not entirely controlled by God, is outside of and dependent upon God, and no individual element of creation is itself eternal. Although God is the most self-determining of beings, God does not entirely determine creation because total control would not be compatible with total love. This is in contrast to the view of kenosis expressed by Polkinghorne and others that God is voluntarily self-limiting while nevertheless controlling the universe's initial conditions. In Oord's theology, God is the most powerful of beings, but where love and power conflict, love trumps omnipotence because God's essence is first and foremost love. Rather than creating *ex nihilo*, Oord therefore holds that God is eternally creating, *creatio ex chaosmos*, from relative chaos of prior universes which were themselves dependent on the divine nature.

In the middle of the book, Oord provides a succinct overview of relevant scientific topics. He delves into biological research on kinship and reciprocal altruism, as well as possible scenarios for group selection of social behaviors. The importance of attachment theory and early relationships for development of caring behavior is thoughtfully discussed. We become truly human in relationship with others, leading Oord to discussion of character formation and virtue ethics. One addition that might have been useful here is the recent research in rodents, showing that good maternal care can actually override genetic disposition through epigenetic mechanisms. Oord might have also noted the contrast many researchers have made between individualistic Western societies and some other more communal societies in which individuals are socialized to a greater extent to work for the common good. Drawing on the cosmology of Ellis and Murphy in *The Moral Nature of the Universe*, Oord uses anthropic fine-tuning to argue that God's kenosis is reflected in the characteristics of the universe itself. God's noncoercive activity may be communicated through quantum indeterminacy simultaneously allowing free will and noninterventionist divine action. God woos, but does not coerce.

I found the chapter in which Oord lays out what he calls essential kenosis the most interesting. While agreeing partially with open theology that the future is not yet knowable even to God, Oord finds Pinnock's version inadequate to deal with the problem of evil. Similar partial agreement and objection arise over the kenosis theology of Polkinghorne and Moltmann. Oord views the acceptance of *creatio ex nihilo* as allowing divine coercion. If coercion were an option, then why did God not create the universe differently? While rejecting an eternal duality of good and evil, Oord accepts David Ray Griffin's view that the loving nature of God by necessity eternally relates to a creation

that has, on all levels from subatomic to human, a measure of freedom to develop its own potentialities. The eternal necessity of love demands an eternal creation free to accept or reject love in ongoing relationship.

As one raised all too familiar with intimations of Jonathan Edwards' angry God, I found Oord's emphasis on One who cannot *not* love deeply touching at a personal level. Still, at the end of the book, I was left wondering whether the rejection of *creatio ex nihilo* really provides an adequate answer for theodicy. Theoretical physics continues to struggle with both the existence and nature of time, suggesting that part of the problem seen from human perspective may be that we, localized and finite, have difficulty thinking of God as omnipresent in both time and space and yet able to interact with our local particularities.

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DARWIN, CREATION AND THE FALL: Theological Challenges by R. J. Berry and T. A. Noble, eds. Nottingham, UK: Apollos, 2009. 208 pages. Paperback; £ 9.99. ISBN: 9781844743810.

This collection of papers was written by evangelical Christians, four scientists and four theologians, on the occasions in 2009 of the bicentennial of the birth of Charles Darwin and the sesquicentennial of his famed *On the Origin of Species*. Historically, the evangelical tradition has struggled with evolutionary theory, and though this book offers many insightful advances, it is clear that evangelical academics are still in the process of coming to terms with evolution.

Evangelicalism boasts of its so-called "high view of Scripture" (p. 150). Unsurprisingly, a paper is dedicated to "interpreting the early chapters of Genesis" by Old Testament scholar Richard S. Hess. But what is surprising is that he offers but a mere thirteen pages for this absolutely essential topic. Hess focuses largely on Genesis 1, and almost as an afterthought, makes a few brief comments about Genesis 2. He does not offer one word on Genesis 3. This is a book with a title that includes the term "the Fall," and it behooves the editors to include a biblical scholar who deals directly and fully with Genesis 3.

This failure to deal directly with the literary genre of Genesis 2-3 renders evangelicals susceptible to a concordist hermeneutic, which is evident throughout most of the book. In the concluding paper, editors Berry and Noble assert, "[W]e accept that there must have been a 'Fall' in time and that we cannot rule out the existence of a historic Adam" (p. 198, my italics). More specifically, Berry contends, "Genesis 1 describes the appearance of *H. divinus*, as a *bārā'* event, a specific act of God, while Gen. 2:7 describes it as a divine in-breathing into an already existing entity" (p. 62). In a similar hermeneutical vein, Noble boldly proclaims, "*To be true to the Christian gospel*, therefore, we must maintain a temporal Fall even though the language used is prophetic and full of imagery" (p. 115, my italics). However, punctiliar events (i.e., an event at one point in time) in the opening chapters of the Bible reflect an ancient understanding of divine action

Book Reviews

and the origin of living organisms, inanimate objects, and conditions experienced by the ancient Hebrews (e.g., suffering and death). Though tacitly embedded in the minds of most leading evangelicals such as Berry and Noble, the concordist hermeneutic leads to the conflation of inerrant messages of faith with incidental ancient Near Eastern categories of origins.

The best part of this book is Noble's summary of "ten facets" of the doctrine of original sin. He underlines the complexity of this doctrine and the interconnective nature of its distinctive features. A. N. S. Lane also offers a helpful review of Irenaeus on the Fall and original sin. The least helpful part of the book is the paper by Henri Blocher. He forces upon readers the position that his views are "consistent," "mature," and "biblical" (respectively, pp. 155, 172, 159) and, in essence, the Christian position. Bloucher is a self-acclaimed "amateur in the sciences" (p. 150), and his rant against evolutionary science being riddled with "conjecture," "opinion-making," and "fallible interpretation" (pp. 160-1) mars a book that honors the scientific achievement of Charles Darwin. I was surprised that the editors included his entry.

Darwin, Creation and the Fall is a valuable book in that it exposes one of the latest attempts by evangelicals to deal with the fact that life evolved, including human life. Ironically, this Christian tradition, which is quick to boast of being so thoroughly "biblical" in its theology, fails to appreciate the incidental Near Eastern categories that the Holy Spirit employed in the revelatory process. In addition, the evangelicals in this book are entrenched in the traditional formulation of the doctrine of original sin; they cannot see that this doctrine was cast within Augustine's fifth-century biology (i.e., the *de novo* creation of Adam). But thanks to Charles Darwin, a new approach to original sin is on the horizon. In the only reference to human evolution in the *Origin of Species*, Darwin writes, "Psychology will be based on a new foundation, that of the necessary acquirement of each mental power and capacity by gradation. Light will be thrown on the origin of man and his history" (1st edition, p. 488). Indeed, in the light of evolutionary psychology, it is becoming evident that a reformulation of the doctrine of original sin is in order from an evangelical perspective.

Reviewed by Denis O. Lamoureux, Associate Professor of Science and Religion, St. Joseph's College, University of Alberta, Edmonton, AB T6G 2J5.

THE LAST SUPERSTITION: A Refutation of the New Atheists by Edward Feser. South Bend, IN: St. Augustine's Press, 2010. 299 pages, index. Paperback; \$19.00. ISBN: 9781587314520.

There are broadly two styles of response to today's militant atheist attacks on religion. One is to engage them with grace, balance, and restraint. The other is to return in kind their bombast, aggressiveness, and disdain. The former approach runs the risk of seeming bland and uninteresting, and may be less attractive to the media because it takes the fun, or at least the prize fight atmosphere, out of the argument. Edward Feser's *The Last Superstition* is definitely of the second type. He is in no danger of being bland. He keeps the prize fight in! His motivation,

he says, is "disgust and distress over the largely inept and ineffective ... response ... put forward by many religious and political conservatives." So he is picking a fight not only with atheists, but with a whole lot of other folks as well. He does this with some panache and wit, which relieves what would otherwise be heavy-handed, but even so, the pugnacious approach does sometimes become wearing.

One excellent strength of this book is a very good popular exposition of key parts of Aristotle's philosophy. Feser takes the opportunity to present a primer on Aristotle and Aquinas, which, on its own, is worth the read. Feser, a philosophy professor at Pasadena City College, thinks that the antidote to the secularism of today's society and the refutation of the militant atheists lies in a return to the philosophy of Aristotle, complete with formal and final causes, in addition to material and efficient causes. He charges that ignorance, or even willful misrepresentation, of Aristotle is what permits the New Atheists their undoubted idiocies. And he sets out, very effectively in my view, to explain what Aristotle (and Plato and Aquinas) really taught, in contrast to the "caricatures of it peddled by secularist critics." He also charges, less convincingly I think, that comparable ignorance is rife within professional philosophical circles, and has been (he implies) since the scientific revolution.

Here, we touch immediately on the most notable weakness of Feser's case. His overall argument is that modern philosophy and, indeed, science itself constitute an erroneous rejection of Aristotle. The choice he offers us is either materialism and secularism, whose problematic philosophical status he ably critiques, or else Aristotle. His prescription is natural enough coming from a Roman Catholic and Thomist. But for all the historic, and perhaps continuing, value of Aristotle and Aquinas, this is a false dichotomy. There are other options, options that for the scientist familiar with the power of empirical investigation seem considerably more attractive than scholasticism. One can join Feser in recognizing the philosophical and moral bankruptcy of the position the militant atheists represent without being intellectually compelled to become a Thomist.

Feser is persuasive in characterizing the naturalistic worldview that undergirds the militant atheist movement as effectively religious. It is a rival to the philosophical theism that held sway from the Greeks through the Renaissance. His "crash course" on western philosophy (chapters 2 to 5 from a book of six chapters) that outlines the Greek philosophy and the consequences of its rejection, will appeal, I think, to readers with a little background, though it will be heavy for someone without any prior acquaintance (despite Feser's protests to the contrary). Much of the book is devoted to an attempt to re-establish the plausibility of Aristotelian causation. This is a laudable attempt to offer not only criticisms of enlightenment rationalism (which he sees as the problem), but also a constructive alternative, based on cogent rational grounds.

His dismissal of empiricist philosophers such as Hume and Locke, though, is altogether too facile, even though I share many of his conclusions. It is too much of a caricature, like those of Aristotle he is at pains to correct. In

fact, even the critiques of modern philosophy that are carefully and convincingly drawn do not leave me where Feser says they must. Yes, many of the “classic” philosophical problems arise out of the abandonment of Aristotle. To cite the problem of mind, for example, many of the recent secularist discussions of mind, fancying that neuroscience is about to dissolve the tough questions, appear to me logically utterly incoherent. And this book does a good job of pointing out how inadequate physicalist doctrine is to the task of understanding the mind. But what Feser does not address is the obvious fact that Aristotle also had to face a host of his own unanswered philosophical problems. They were not necessarily the same problems, but they were real and pressing. Indeed, at its best, the new philosophy of the seventeenth century was genuinely trying to solve Aristotle’s problems. However, you could not tell that from reading Feser’s book. What is more, today Aristotle starts at a disadvantage, not just because he is misrepresented, but because modern science really is amazingly successful at telling us about the natural world, successful in a way that Aristotle’s science never could be. In other words, the scientific focus on efficient causation (rather than formal or final) has been astonishingly fruitful in discovering real knowledge.

What ASA members will therefore find lacking in this book is an appreciation of science’s epistemological success, and the extent to which that success is founded upon an empirical emphasis, in contrast with the schoolmen. It is not possible, I believe, to turn back the clock and to return to a thoroughgoing Thomist viewpoint, which appears to be Feser’s preference. We can, especially as Christians, value the philosophical arguments, and recognize that the philosophical theologians of antiquity had carefully considered reasons for their beliefs, some of which are still persuasive. We can and should also repudiate today’s commonplace naive scientism (the presumption that science is all the real knowledge there is) on which the assurance of the militant atheists rests. But we must fashion a synthesis that grants to science, to philosophy, and to all the other sources of knowledge their appropriate weight. *The Last Superstition* gives us important incentive and logical and historical background for that task, but not really a viable solution.

Reviewed by Ian H. Hutchinson, Professor of Nuclear Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA 02139.

THE CHRISTIAN FUTURE AND THE FATE OF EARTH by Thomas Berry, ed. Mary Evelyn Tucker and John Grim. Maryknoll, NY: Orbis Books, 2009. 129 pages, appendix, index. Hardcover; \$22.00. ISBN: 9781570758515.

Ecotheologian, cultural historian, Passionist order priest, and self-described geologist, Thomas Berry was one of the best-known Catholic commentators on the environmental crisis. His teaching, speaking, and writing have influenced a generation, and he is perhaps one of the best-known ecotheological scholars. Berry passed away at the age of 94 on June 1, 2009. This small-format book assembles ten essays that survey the “Christian roots” of his ecological thought from 1982 to 2000.

Ecotheology, as Celia Deane-Drummond notes in her textbook, is a newly emerging discipline. It takes as a premise “that it is possible to combine concern with the environment and an understanding of God.”¹ Berry is one of the founders of this new discipline and his thinking has shaped the early debates about its contours. This collection of essays gives the reader a handy entry point into his thinking.

His use of language was filled with neologisms, although he is highly quotable. In all his work, his single-minded goal of telling the “New Story” or the “Universe Story” is clear. “We ourselves,” he writes in the 1994 essay, *Wisdom and the Cross*, “were brought into being through this process. The universe story and the human story are a single story.” So his task is to convince readers that evolutionary theory, in its biological, chemical, and physical manifestations, is a robust lens for interpreting their biblical and cultural stories.

The second thread in Berry’s writing is his view that while humanity has developed moral responsiveness to “suicide, homicide, and genocide,” we lack a sufficient response to “biocide, the killing of the life systems themselves, and genocide, the killing of the planet Earth in its basic structures and functioning.” Berry mounts a sustained and biting ecological critique of his generation. At one point, he says that he considers the twentieth century to be “autistic” with respect to the creation itself. And he goes on to identify a number of social formations—business, economics, universities, and seminaries—as structures responsible for the relentless destruction of life systems. So Berry is clear and uncompromising in staking out his position on the spectrum of ecological debate. Yet he is not simply a doomsayer. He sees hope that Christians will “assume their responsibility for the fate of the Earth.” This is their “Great Work” as he calls it, the work of the church becoming “a power force in bringing about the healing.”

The third major thread in this book is the attempt to bring together the wisdom found in both the sacred and scientific stories. In these essays he says that we are “rewriting *The City of God* of Saint Augustine,” but not, he notes, as two cities. And elsewhere he sees a second Exodus experience emerging that will move humanity into a new relationship with the Earth. Finally, he develops a cosmic Christology by asserting that the “wisdom of the universe and wisdom of the cross are two aspects of the same wisdom.”

These themes, cosmic and human evolution, the warnings of ecological crisis, and the cosmic implications of the biblical narrative, will be familiar to *PSCF* readers. Each has been debated widely in these pages. What is new here is the focus of these essays on Berry’s views about the biblical narrative and the history of Christian thought. The intention of this volume, the editors say, is to fill in this gap. They argue that, “While many people have followed his writings on the story of evolution, few have understood his Christian roots.”

Indeed, part of the problem may be that Berry himself let his great ecological concern overwhelm his views on this point. On more than one occasion, he claimed that it would be good if western Christians “put the Bible on

Book Reviews

a shelf for twenty years.” His thesis throughout is that “the economic rapaciousness is not a trivial fault or a minor error in our thinking and acting. It is the consequence of a profound failure deep in the religious-cultural tradition itself.” And further, he says, “So estranged from the universe have we been over these past centuries that we feel Christian spiritual tradition is independent of any need to be concerned about the universe.” So he wishes to refocus away from the human redemption story and on to the cosmic one. His argument is more subtle than the clever tag-line can bear. It is unfortunate that in this selection of essays there is neither a corrective nor a commentary on this statement. Many have heard it, and it leaves substantial doubt about Berry’s view of the Scriptures. Yet these essays do go some way in showing his knowledge and reliance on the biblical authors.

Throughout these essays, we learn of the intellectual heritage upon which Berry draws. He quotes widely from St. Augustine, Thomas Aquinas (his namesake), and palaeontologist and French Jesuit priest Pierre Teilhard de Chardin. He seems clearly inspired to recast the guiding metaphors of the day. Perhaps his most engaging is that of space: “The immense curvature holds all things together ... in an embrace that is ... sufficiently closed to provide structural integrity and yet sufficiently open to enable the universe to continue its unfolding.” This is a more inviting view of cosmic evolution in which one might be able to locate humanity. And it points to the radical rethinking of the human-Earth relationship that Berry is calling for throughout his work. But these short essays are only indicative of his argument, and not likely in themselves to convince sceptics of his argument. It was interesting to see the influence of Chardin’s thinking throughout Berry’s work. And it reminded me of another popular twentieth-century Catholic thinker, Marshall McLuhan, who was also heavily influenced by Chardin. Both Berry, with his “universe story,” and McLuhan, “the medium is the message,” have given us memorable metaphors for rethinking the challenges of our times.

Now that his work is closed, it will take some years of testing to evaluate its full depth. Some readers will reject his evolutionary stance out of hand. But they were not likely his primary audience. Others will find these probing essays helpful and challenging. No matter what your view these essays will give you a solid introduction to Thomas Berry’s thought. Readers interested in exploring Berry’s thought further should consult the resources available through the Forum on Religion and Ecology at Yale, which is supported by the Thomas Berry Foundation and directed by Mary Evelyn Tucker and John Grim.

Note

¹Celia Deane-Drummond, *Eco-Theology* (Winona, MN: St. Mary’s Press), p. x.

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RELIGION & BIBLICAL STUDIES

THE SEVEN PILLARS OF CREATION: The Bible, Science, and the Ecology of Wonder by William Brown. Oxford: Oxford University Press, 2010. 352 pages. Hardcover; \$29.95. ISBN: 9780199730797.

William Brown, whose work on creation theology is already well represented in his *Ethos of the Cosmos* (Eerdmans, 1999), has now provided an integrative work encompassing aspects of science and biblical theology. He bases his work on seven key creation passages of the Hebrew Bible that he dubs the seven pillars of creation, and invites the reader to join him as he explores points of conversation between the Bible and science. The seven pillars he identifies are (1) Gen. 1:1–2:3; (2) Gen. 2:4b–3:24; (3) Job 38–41; (4) Ps. 104; (5) Prov. 8:22–31; (6) Eccles. 1:2–11; 12:1–7; and (7) Isa. 40–55.

Brown encourages an appreciation of faith and mystery as he charts a constructive rather than confrontational path that walks a line between what some identify as a godless scientism and what others consider a narrow creationism. In the process, he sets out to explore how to read what the Bible says about creation. When it comes to understanding the biblical view of creation, Brown contends that there is no “Grand Unifying Theory” – that different biblical texts offer different perspectives, and we should not necessarily attempt to harmonize them.

The author is not presenting any particularly new idea or theory – just trying to offer a sensible integrative reading based on imaginative associations. At the same time, he insists on recognizing both the resonances and dissonances between science and theology. Brown proceeds by first acknowledging the authority of Scripture (by authority, he refers to the generative power of Scripture to evoke reflection and to shape the conduct and identity of the reader and the reading community, p. 12). He also lays a foundation in hermeneutics in which he asserts that we must pay attention both to what the text meant historically and to what it means to today’s believing community.

His procedure is laid out in the steps that he labels “Elucidate” (observational, descriptive approach to the text), “Associate” (identifying “virtual parallels” between science and text) and “Appropriate” (understanding the text in the light of scientific understanding and vice versa). As he applies this “feedback loop” to the data he finds not a God-of-the-gaps perspective, but a “science of the divine vista” (p. 17). Rather than Gould’s non-overlapping magisteria he prefers a wisdom quilt of “tangentially overlapping magisteria” (p. 17).

Having laid down his methodological foundation, Brown then introduces the reader to the ancient Near Eastern backgrounds before proceeding to the seven biblical creation accounts. He assumes that biblical authors had inherited certain traditions from the ancient world (p. 21), and that the biblical accounts were created in dialogue with the ancient world. He is therefore committed to treating the Bible as ancient literature. Though he considers the biblical accounts as inherited stories, he also asserts

that the Israelites mediated and transformed them as they responded to the traditions of their neighbors.

In his analysis of Genesis 1, which he dates to the post-exilic period, the cosmic temple is seen as the prominent metaphor. Unlike other recent works which suggest that the cosmos is being set up as a temple, Brown's discussion likens the literary design of the account to the architectural design of the temple (days 1 and 4 represent the entry into the portico; days 2 and 5, the entry into the nave; and days 3 and 6, the entry into the Holy of Holies, the seventh day). Creation in this account is seen as the new creation of the post-exilic period that God brings forth out of the chaos of the Babylonian destruction and exile. An example of the dialogues that he assembles can be seen in his likening the dark waters of Gen. 1:2 to the dark matter that is part of modern scientific understanding or to the interstellar gas and dust that form stars and planets. In an appendix (pp. 241-4), he provides a chart for each of the seven biblical passages, aligning the biblical observations with scientific ones. He is not suggesting that the Bible was really talking about those scientific ideas nor that we should read them into the Bible. He is simply trying to bring the Bible and science into conversation through comparison. This approach borders on concordism (especially when he asserts that the *raqia'* of day 2 is what we call the atmosphere), but he is not trying to push his comparisons into vindicating interpretation, as concordists are prone to do when employing a harmonizing hermeneutic. He is simply meandering through a variety of observations. Brown is not trying to identify truth in the biblical account; he is identifying points of convergence between what the biblical writers observed about the cosmos and what we still observe today (e.g., order, structure).

In the end, this book does not offer an interpretation of the biblical accounts nor a defense of them. Neither does it offer a view of science that will be compatible with the biblical text. Brown is interested that we investigate both the biblical text and the world around us and come to appreciate both to a greater extent as we see the commonalities (yet not glossing over the differences).

Readers may often find his comparisons stretched, but I doubt that would faze the author. He is not trying to prove anything. He is stimulating the reader's imagination. He is well read in science (which cannot always be said of theologians writing in this field) and maintains a faith commitment (though readers looking for evangelical assertions will be disappointed).

Does he succeed at what he attempts? Yes, though many might prefer a book that seeks to forge new trails rather than one that encourages the pilgrim to stop and indulge moments of wonder. But if we allow authors to write the book they set out to write rather than the one we might want written, we would have to judge Brown's reflective work a success.

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RELIGION & SCIENCE

WESLEYAN THEOLOGY AND SOCIAL SCIENCE: The Dance of Practical Divinity and Discovery by M. Kathryn Armistead, Brad D. Strawn, and Ronald W. Wright, eds. Newcastle upon Tyne, UK: Cambridge Scholars Publishing, 2010. 195 pages. Hardcover; \$59.99. ISBN: 1443817333.

The revival of scholarly interest in Wesleyan theology continues and in this volume, extends into psychology. As a Christian in the Wesleyan-Arminian tradition, I celebrate this contribution in general and its substantive contents in particular. Do not let the book's brevity suggest that it is slim in substance. The editors successfully pressed chapter authors to discuss theology historically and in a variety of contemporary scholarly and applied extrapolations to psychology.

The book is organized into three parts. The first part establishes the editors' stated design to move from theology to psychology rather than the more usual practice of starting with psychology and attempting to connect with theology. Authors of the first two chapters, Randy Maddox and Michael Lodahl, review the historical John Wesley, including key contexts and influences from the eighteenth century, and then advocate for his theology's compatibility with science in general. In addition to being an eminent Wesleyan scholar, Maddox has long been informed about psychology in general and especially Wesley's moral psychology orientation.

The second and longest part of the book consists of eight chapters. Chapter authors pick up on the tempo established by Maddox and Lodahl and relate Wesleyan theology to a sampling of significant topics in North American psychology: notions of the self (one chapter on Kohut's object relations approach and one on a Bowen family systems theory approach), cognition, nurturing human relationships, the unconscious, and a version of virtue ethics.

Authors of each chapter follow the same format. First, they provide an overview of the chapter topic to orient the reader to the territory. Second, they succinctly review the topic (e.g., notions of self), including pertinent research and alternate perspectives on the topic besides their own. Third, they relate aspects of Wesleyan theology to the topic, including general suggestions for future research, conceptual development, or professional applications. I found the organizational framework straightforward and useful.

The two chapters in the third part consider Wesleyan theology in relation to science in general, much as the first two chapters, albeit with a more contemporary lens. While Maddox and Lodahl framed contexts of a historical Wesley, Blevin and Green considered more current applications of Wesley in areas such as bioethics. Green also wisely observed limitations of Wesleyan theology addressing current sciences, since science and technology are now so different from what Wesley could possibly have imagined.

Book Reviews

While I am a fan of the book, it could have been improved. From the title, I expected a sampling of theologians and social sciences. Instead, the authors were theologians and psychologists at Christian institutions, plus one family therapist. As one whose disciplines are primarily psychology and family therapy, I greatly enjoyed reading and learning from these colleagues' vital thoughts. For clarity with potential readers, however, a title along the lines of "Wesley and Psychology" would have been more apropos.

Longer chapters would have been another improvement. When authors came to the point in each chapter of suggesting research and/or clinical applications of theology and psychology, they had only a sentence or two to spell out their ideas. If the intent was a heuristic leave-them-wanting-more, then it worked. If, though, the intent was to point toward future work, the signage needs to say more than, "You might go this way."

Overall, I deeply appreciate the book's contents and applaud the editors for laboring to bring it forward. A particular point of appreciation is that each author demonstrated understanding of this giant of eighteenth-century theology and sought to bring their understanding to twenty-first century psychology in a manner that connected timeless theological principles to highly different cultural and scientific issues. Hopefully, it will help stimulate related works with a Wesleyan interest on research, conceptual development, and clinical applications in psychology and other social sciences. It has already joined my collection of references that are core to my own scholarship.

Reviewed by Don MacDonald, Professor, School of Psychology, Family, and Community; Seattle Pacific University, Seattle, WA 98119.

SCIENCE AND SPIRITUALITY: Making Room for Faith in the Age of Science by Michael Ruse. New York: Cambridge University Press, 2010. 264 pages, index. Hardcover; \$30.00. ISBN: 9780521755948.

Prolific philosopher of science and well-known skeptic Michael Ruse has been on a mission as of late to get beyond the vitriolic rhetoric that has marred much of the science-and-religion "conversation" conducted in opinion journals and the blogosphere. It is a noble task. And with *Science and Spirituality*, he directs his efforts especially to people of science. Ruse's overall formula is predictable: demonstrate how the unwarranted hyperbole of the partisans—using shorthand, literalists and creationists on the one hand and the new atheists on the other—harms constructive dialogue and understanding. And he addresses versions of questions he has written about previously: Is science fundamentally antithetical to religious thinking? And more specifically, can a person legitimately "cherish science and its achievements and be a Christian, holding with dignity and proper conviction the things that are central to that religion?" (pp. 7–8). But Ruse has not simply repackaged old arguments, and the book is quite different from others with a similar agenda of effecting mutual respect and civility between science and religion.

Essentially this is an essay on the nature and limits of science. The bulk of the book addresses the important and often under-appreciated fact that science relies heavily on metaphor. Ruse provides a historical survey tracing the dominant scientific metaphors and concludes that "the machine metaphor rules modern science" (p. 118). But there are a number of questions humans pose that the machine metaphor, indeed science, is ill equipped to answer. These include the primordial question, "Why is there something rather than nothing?" as well as "What is the foundation of morality? What is consciousness? What is the point of it all?" (p. 146).

Perceptively, Ruse notes that the real issue is not appreciating that science has limits, but recognizing where and when we have reached them. At this point he includes a brief but utterly fascinating discussion of Colin McGinn's controversial approach to the question of limits as it relates to consciousness and the mind-body problem. McGinn, a leading spokesperson for a group of philosophers who have dubbed themselves the New Mysterians (the Old Mysterians presumably were the dualists), concludes that "there are nontrivial limits on what human beings can come to grasp" and there may well be realities beyond our evolved, spatially-biased conceptual lens (p. 178). Ruse does not necessarily endorse this line of thinking, but he does agree with McGinn that our capacity to think is dictated by our biology. Consequently, "there is no very good reason to conclude that these ways [of thinking we humans have] are necessarily ones that guarantee a path to the understanding of the whole of absolute reality" (p. 180).

After arguing that science runs out of steam in addressing some very important questions humans ask of their existence, Ruse devotes the concluding section of *Science and Spirituality* to faith-based answers offered by traditional Christianity (read Augustine, Aquinas, Luther, and Calvin). His discussion of the attributes of God, the problem of evil, morality, the soul, eternal life, and mystery are not intended to be exhaustive or even convincing. Rather, he makes the case that while the core claims of Christianity go beyond the reach of science, "they do not and could not conflict with science, for they live in realms where science does not go" (p. 234). Believers might be tempted to thank Ruse sarcastically for his conclusion that "in the light of modern science you can be a Christian" (p. 233). But that would miss the whole point of the book. If one is looking for more apologetically oriented argumentation on the compatibility of the Christian faith with modern science, then John Polkinghorne's *Faith of a Physicist* is the book to read. Ruse has an entirely different agenda here, the success of which is something this reviewer, because of his strong faith commitments, is unable to assess properly. What can be said, however, is that this is a thought-provoking book that challenges the reader to consider not only the metaphorical nature of science and its necessary limits, but also the proper relationship between science and religion. Ruse firmly believes that relationship is asymmetrical in favor of science. No doubt that is an accurate description of things—troubling as it is for some of us.

Reviewed by Donald A. Yerxa, Senior Editor of Historically Speaking, Boston, MA 02215-2010; Editor-Designate of Fides et Historia; and Professor of History Emeritus, Eastern Nazarene College, Quincy, MA 02170.

WHY GODS PERSIST: A Scientific Approach to Religion, 2d ed., by Robert A. Hinde. London: Routledge, 2010. 293 pages. Paperback; \$34.95. ISBN: 9780415497626.

Robert A. Hinde is the Emeritus Royal Society Research Professor of Zoology at the University of Cambridge. His academic credentials are extensive. What might motivate a renowned zoologist to write and then revise a book on religion? The answer is that Hinde envisions “a better world than we have had so far” (p. ix), and that by *better*, he imagines a world in which religion is not necessary (p. 250). He shares with Daniel Dennett and Richard Dawkins the vision of a world without religion, but believes that the “sledgehammer” (p. viii) approach of their ilk is unproductive. His more subtle approach is to attempt to treat religion scientifically: that is, to investigate its antecedents as well as its consequences—including the functional as well as the dysfunctional.

In a series of short (average length: fourteen pages) chapters, Hinde recaps conventional explanations for religious belief: psychological, sociological, anthropological, and biological. The benefit of his approach is that within one volume, a lay reader—the intended audience (p. ix)—holds synopses of different explanations for the fact that people around the world continue to believe in things which “if taken literally, [are] clearly false” (p. 1). Many of the names that one expects to see can be found: James, Malinowski, Milgram, Skinner, and Stark, to name a handful. Durkheim, Marx, and Weber are represented by proxies Lienhardt, Bloch, and Geertz, respectively. Strikingly, Freud is utterly overlooked, unless one elects to count a single reference to Bowlby (p. 165) as representing the psychodynamic perspective.

In addition to this array from the behavioral sciences, Hinde also invokes Darwin and modern biology’s attention to behavior, citing Buss, Hamilton, and Trivers. The intention is to produce a comprehensive catalog of some of the best thinking on the causes and effects of religious belief, and in this regard, the book is a success; the table of contents shows chapters that address the nature and content of religious beliefs, narratives, and ritual. The final hundred or so pages of the book attend to morality, prosociality, and experience before the concluding chapter, “Where Do We Go from Here?”

The question is not entirely a rhetorical one. Hinde is convinced that there will, eventually, be a world without religion, and that his book contributes to the worthwhile effort to “consider what a non-religious society in which we preserved what is best in our present circumstances might be like” (p. 252). He notes that religion “remains a force for a while longer” (p. 251), in part because it works for some: “While it would be wrong, because condescending, to see religion as a panacea for underdogs, so long as there are underdogs there may be need for a panacea” (p. 250).

Hinde sees himself as a voice of reason—different from Dawkins whose position is represented as “total hostility to religion” (p. 252). Hinde sees no reason why, once the causes and effects of religion are understood scientifically, the good (The Golden Rule, for example) cannot be retained while bathwater such as fundamentalism, sectarian violence, and intolerance is disposed of.

A significant drawback of Hinde’s comprehensive interdisciplinary technique is what he refers to as “a continuing dialectic between individuals and their social environments” (p. 218). This distracting “dialectic” is experienced as a chronic shifting to and fro between methodological individualism and methodological holism—that is, between using the individual as the unit of analysis and attending to the individual’s needs and motivations on the one hand, and using the group as the unit of analysis and attending to group functions on the other. This reduces the book’s readability. One other feature that has a similar effect is the promised utility of the “self-system” concept, the value of which “as a model in understanding human behaviour and religion will become apparent” (p. 29). This concept occurs only intermittently, and its utility never became fully apparent.

Christian readers may be put off by an author who sees nothing wrong with a post-religion world. Still, for those who have not yet familiarized themselves with scientific explanations for their own beliefs, this volume is a very good place to begin. Readers in this category would, however, do well to remember that a scientific explanation for a religious belief does not, in itself, make the belief false any more than a scientific explanation for how we come to believe that germs cause illness makes that belief false.

Reviewed by Alexander H. Bolyanatz, Professor, Department of Anthropology, College of DuPage, Glen Ellyn, IL 60137.

THE UNIVERSE—Order without Design by Carlos I. Calle. Amherst, NY: Prometheus, 2009. 304 pages, including 46 pages of notes and references, glossary, and index. Hardcover; \$21.00. ISBN: 9781591027140.

Calle devotes much of his book to educating the reader about humankind’s current knowledge of cosmology and the research that has produced this. Calle wishes to “explain ... the revolutionary concepts behind the new scientific theories that are taking us beyond the moment of the big bang” (p. 11). This he does well.

In an often very entertaining manner, Calle retraces the history of cosmology from the early twentieth century to the present. He calls upon a wealth of interesting and/or humorous anecdotes about cosmologists and physicists. There is, however, more to Calle’s intent. His deeper purpose is expressed in the subtitle and preface: to convince the reader that the universe “is fully explained by science” (p. 11), with “explained” meant in the context of ontological materialism.

The book jacket asks,

[I]s the universe designed for life? Physicists have discovered that many seemingly unconnected phenomena, which took place millions of years apart, played a crucial role in the development of life on earth. Does such evidence reveal a purpose behind the order of the universe? ... Calle explores this tantalizing question.

This is misleading, because Calle’s position is clear. The book is not intended to “explore,” but to promote a specific answer. Calle’s underlying goal is to convince the reader

Book Reviews

that the order in the universe is no indicator that a divine being is involved. Rather, Calle argues that scientific discovery has removed any need or place for God.

Although Calle provides a superb “wide ranging introduction to the very latest and sundry ideas about the origins and evolution of the enormous cosmos” (book jacket), this is intended primarily to advance his materialist views. After excellent discussions of forefront science in each chapter, one consistently finds a concluding section expressing an antitheist stance. Calle’s discussions seek to convince the reader that with each advancement, science allows less room for belief in a deity.

Calle is revealing when he expresses admiration of Richard Dawkins’ writings:

Biology has a designer, a watchmaker, but it is a blind watchmaker, a mindless watchmaker without a purpose. Biology’s watchmaker is natural selection. Richard’s Dawkin’s [sic] book *The Blind Watchmaker* explains it clearly and authoritatively. (P. 20)

Calle indicates a desire to do for the interpretation of physical laws, what he believes Dawkins has succeeded in doing for biology. Calle writes that

although biology deals with what may be the most complex system in the universe, physics concerns itself with the ultimate questions of existence: How is the universe made? How does it work? Did it have a beginning and if so how did it start? Equally important: Was the universe designed for life? ... Biology can be explained through natural selection. The universe can be explained with the laws of physics, its watchmaker. (P. 20)

If we cannot find any gap in the consistency of the physical laws and their explanation for the existence and evolution of our universe, Calle’s implication is that God does not exist. Calle’s arguments are a regurgitation of Dawkins’, substituting cosmology for biology. The weaknesses are parallel: Calle mixes science with philosophy and theology. While placing no limits to what he suggests science can discover, he simultaneously constrains portrayal of God to the “god-of-the-gaps” picture.

Calle seeks to eliminate any need for a creator by explaining the universe in scientific terms, furthering his either-God/or-science dichotomy. He does not allow God to act (to be acting) transcendentally, beyond all of spacetime, not depending on whether a universe or multiverse has a finite or eternal past history. Calle cannot perceive God as the primary cause working through secondary (physical law) causes.

Calle adopts his own version of Paley’s watchmaker analog: for Calle the physical laws become the actual watchmaker, self-creating and self-actuating. His watchmaker class of physical laws are those laws that allow and provide for the string/M-theory multiverse or whatever our universe exists within.

With the introduction of M-theory (or its presently only vaguely understood complete nonperturbative version), Calle believes that

the laws of physics ... are now complete. We have gone from the well-understood depiction of the matter and force particles of the Standard Model,

guided by the rules of quantum mechanics, to the frontiers of knowledge, where we encounter a master theory that promises to unify all the forces of nature and explain how the universe is put together. (P. 149)

For Calle, the watchmaker is an impersonal concept, the underlying physical rules that allow and produce the universe and its forces:

The laws of physics are the watchmaker ... These laws controlled the evolution of the universe, the forces of nature, and the way these forces evolved and operated. Everything that happens in the universe happens because the laws of physics allow it to happen. The watchmaker governs the entire universe and not only its evolution, but its own evolution. The question that remains is, did this watchmaker make itself exist forever, or was it created? (P. 129)

He devotes little space to considering whether more than physical laws are required for existence of a universe. He seems to draw on a faith, based on the past successes of science, that one should trust whatever the ultimate physical law is; it is self-existing and self-creating, responsible in and of itself for all that exists.

Calle examines three cosmological issues that big bang theory could not resolve: (1) the 1-part-in- 10^5 uniformity of the cosmic microwave background (CMB), (2) the origin of structure within the universe in spite of the CMB uniformity, and (3) the flatness problem and critical mass density. Calle discusses pre-big-bang inflation resolutions to these. For him, the success of inflation theory narrows the gaps allowed God.

Calle provides possible explanations for the apparent fine-tuning of the cosmological constant and also proffers these as arguments against any activity of God. Calle further mixes science with theology when he asks, “What about God?” Calle describes the Euclideanized Hartle-Hawking universe, which is claimed to be

completely self-contained and not affected by anything outside itself. It would neither be created nor destroyed. It would simply BE ... Who [then] created the laws of physics? Can they simply be? (P. 26)

Calle answers, “If the universe is self-contained, with no beginning and no end ... there is nothing left for a creator to do” (p. 26).

Calle considers chaotic inflation theory and the cyclic ekpyrotic model. He concludes, “If either the eternal inflation or the eternally oscillating model is correct, the creator doesn’t have a job to do either” (p. 28).

Calle summarizes the problem of origins as threefold:

first, we need to understand how the universe—or multiverse—came to be; second, we need to understand the origin of the laws of physics; and third, we need to explain the fine-tuning that we observe. We want a satisfying answer to all three problems. (P. 250)

He asks, “How do the models that we have considered stand on these three issues?” (p. 250) “... Do the models [discussed herein] solve the problem of origins in full? Or does the Creator still have a job to perform?” (p. 253) and responds with “a word of caution regarding these models: they are not full-fledged theories ... We must, therefore, take them as

works in progress, some ... with a great deal of promise" (p. 250) ... "The models, proposals, scenarios, and constructs we have examined are just what their names imply: tentative but serious and precise models" (p. 253).

However, since "science has an impressive track record" (p. 254), Calle believes that

there is little doubt that science can explain the universe, as evidenced by the extraordinary advances in our understanding of the evolution of the early universe right up to an instant after the big bang. If one of the present models or a more advanced one yet to be developed turns out to be the correct one, the problem of origins would be fully explained and the creator wouldn't have a job to do. The universe and its laws of physics would have no origin and would not need a supernatural designer. The fine-tuning observed would be the result of the laws of physics—the universe's watchmaker—that evolved purposelessly and mindlessly to create the equilibrium and order that we see. (P. 255)

Calle assumes that scientific investigation will show the ultimate physical laws to be self-explanatory. He avoids discussion of Gödel's theorem, which contradicts this belief on mathematical grounds. The multitude of structures within Max Tegmark's Level IV (Ultimate Ensemble) multiverse classification are also ignored. Here too, Calle introduces science into philosophy by judging purpose versus purposelessness, mindfulness versus mindlessness. Calle's claim, that science eliminates need for God, is consistent only if God is a "god-of-the-gaps" type, but not if God is responsible for both the physics and the physical laws.

This book is worth reading for those interested in a well-written and entertaining review of developments in modern cosmology and today's cutting-edge research, but not caring about Calle's overall intent. I do not recommend it for anyone tired of simplistic antitheist "god-of-the-gaps" presentations.

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Letters

A Reply to "Seeking a Signature," an Essay Review by Dennis Venema

Venema's (*PSCF* 62, no. 4 [2010]: 276–83) "scientific critique" of Stephen Meyer's book, *Signature in the Cell*, fails to come to grips with Meyer's main thesis, which is that an unplanned nature is impotent in the generation of the information contained within the first cell. Certainly, random mutation linked to a selector such as natural selection can produce functional information, but is such information sufficient? Since God may superintend nature, the scientific question is this: Does an unplanned

nature have the potential to generate the information contained within the first cell?

Random mutation plus natural selection is not "a candidate for the origin of biological information from nonliving precursors."¹ Natural selection occurs between living cells. No comparable selective activity exists within the abiogenic world. While an RNA world might catalyze amino acid polymerization, it would not generate information any more than stringing letters together would produce prose. Such polymerization might include non-biological amino acids and R-isomers, which would further obstruct the generation of information. An RNA catalyst may preferentially select some amino acids over others, generating uniformity rather than complexity. A functional RNA molecule is not a template for a functional protein, and it does not explain any information contained within genetic RNA or DNA.

Fewer than 10^{46} carbon atoms exist in the upper 10 kilometers of Earth's crust, and fewer than 10^{44} polymers of 100 amino acids would exist at any moment in time. If each polymer reshuffled its amino acid residues once per second for 3 billion years, fewer than 10^{61} polymer variations would be available to explore sequence space.

Cytochrome *c*, an enzyme composed of 101 to 104 amino acid residues, has 27 necessary and specific amino acids, each located at a specific site along the protein chain. The probability of sequencing the appropriate codons for these amino acids is 1 chance in 10^{35} per try.² By extrapolation, an average-sized protein with about 400 amino acid residuals would contain somewhere between 81 and 108 specific amino acids located at specific sites. The probability of ordering the codons for such amino acids ranges between 1 chance in 10^{105} per try and 1 chance in 10^{140} per try.³ Fewer than 10^{61} protein variations exploring sequence space falls short in the generation of an average-sized protein-folding motif by a factor greater than 10^{44} to 10^{79} .⁴

An unplanned evolution has produced fewer than 1050 proteins to explore sequence space⁵ and is impotent in the generation of one average-sized protein-folding motif. Hundreds of such protein-folding motifs, and those larger,⁶ had to be present among the "immortal" genes. The probability of assembling the more than 810 specific amino acids in the generation of only 10 of these protein-folding motifs⁷ would be less than 1 chance in $10^{1,050}$ per try.⁸ A multiverse containing 10^{500} universes and producing fewer than 10^{586} proteins exploring sequence space⁹ is totally impotent to the task.

Sean Carroll wrote, "(I)t is probably 50 to 100 times 'easier' (i.e., more likely) to disrupt a gene than it is to make a precise specific single mutation."¹⁰ Assume that 50 of the 500 "immortal" genes are assembled. The 50 genes are identical to fossil genes. For every beneficial mutation in the building of the 51st gene, the intact genes, as a group, are disrupted at 50 to 100 sites. No evolutionary progress occurs when 50 functional genes are lost as one functional gene is assembled.

An unplanned nature is impotent in the generation of the information required by the first cell. This is not a scientific conclusion but a logical conclusion based on probability. No "... thorough search through all proposed