

Book Reviews

providing a context for quotations, especially lengthy block-style quotes, and then following them with an explanation of how the language of the source material supports the claim the critic is making. Unfortunately, not only is Ruse's argument seldom clear, but he frequently fails to provide even minimal introduction to quoted materials. The reader is often at a loss as to whose words and from which source was intended. And then the text is left to stand for itself, as if its meaning clearly supports the obscure argument without further effort from the author.

The prose style is chatty and familiar in tone, as if the author and reader are old friends who share the same opinions and ideas—this may be why the author failed to make a pointed, rigorous argument. An example of his many asides occurs when he treats the work of Marilynne Robinson, noting, "Somewhat ironically, given themes in her fiction, one of her greatest admirers is Barack Obama, the first black president of the United States" (p. 274). Ruse never defines these themes, leaving the irony ambiguous. One is left to assume that he considers Robinson's novels racist, although the plot summaries and quotations he offers do not really support such a view. The reader, it appears, is supposed to accept the opinion uncritically.

The reader occasionally wonders if Ruse feels a vague sympathy with some of his "religious" authors, but by the end of his compilation, it is clear that he finds them deluded. Again, it is unclear whether he is paraphrasing their thoughts or articulating his own. Discussing Amy Clampitt's poetry as an example of an attempt "to make the case for Christianity in a Darwinian world," he notes, "One has another intimation of the theology of Job, of a God who allows and perhaps even commits what we judge evil" (p. 266), and then interjects two stanzas from a Philip Appleman poem which opines, "God has the morals / of a Babylonian butcher" (p. 268). Near the end of the book, he references "Pattiann Rogers, one of America's leading Christian poets," presumably because Rogers uses the term "god" in her poetry, certainly not because she makes any claim to that title (p. 260). While he nods at Marilynne Robinson's neo-Calvinism, a consideration of Annie Dillard is mysteriously absent. By the last page, it seems reasonably certain that Ruse views religion primarily as a set of outdated myths that serve alternately as a panacea for human anxieties and as a spur to meaningless violence: "Finally, will people see the damage that religion does? Will they recognize the evil that lurks at the heart of every faith system?" (p. 268). Of course, such pernicious ideas are best replaced by an acceptance of Darwinian realities suggested to the author by the Book of Job.

To his credit, Ruse occasionally recognizes that both Christianity and Darwinism are complex fields of thought: "It is important to stress these ambiguities in the Christian position, because they are echoed in Darwinism and in the literary responses and interpretations" (p. 129). The book as a whole suggests that Ruse maintained an inadequate critical distance from his materials, the result being more polemics than well-crafted persuasion.

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SCIENCE AND BIBLICAL STUDIES

CHANCE IN EVOLUTION by Grant Ramsey and Charles H. Pence, eds. Chicago, IL: The University of Chicago Press, 2016. vii + 359 pages. Paperback; \$45.00. ISBN 9780226401881.

Those following the literature on theological responses to the natural sciences will be aware that there is a small industry of books that has appeared in the last few decades responding to the notions of chance and randomness operative in the evolutionary history of the world. On the one side are those in the Wesleyan-Arminian and, more recently, open theistic and process traditions that have advocated a theological vision of divine providence working in and through the chance of creation's processes; on the other side are, usually, Reformed thinkers, especially conservative (often Westminster confessional) theologians, who have labored to insist on God's sovereignty sometimes despite but more often over the appearances of fortuitousness and haphazardness in the nature of things. The book under review is by and large unconcerned with adjudicating the theological debates, although there is plenty of historical and scientific analysis here that will be pertinent to theologians devoted to engaging the issues.

The three parts of the book explicate, respectively, historical developments (five chapters), biological processes (three chapters), and history-of-life perspectives (four chapters) related to chance in evolution. The first section is quite interdisciplinary, starting with a historical overview of notions of contingency, chance, and randomness from the ancient through medieval periods and as received in modern biological science (authored by a historian of rhetoric who has focused much of his life's work on the history of biology). The focus then shifts to chance in the development of Darwin's thinking, and its reception since (by a historian of science), and then chance in the modern (neo-Darwinian) synthesis (co-authored by four philosophers). It then segues into Christian

theological responses (written by a theologian) and concludes with an analysis of chance in relationship to Darwinian evolution (by a philosopher of science).

The cumulative effect of these chapters is the realization that with respect to the theological issues at stake, historical attentiveness and transdisciplinary engagement will clarify misunderstandings and situate the concerns in contexts that invite reconsideration of contested variables otherwise often locked into parochial frames. For instance, even across the evolutionary sciences, there is no such thing as absolute chance; whether in terms of contingency, randomness, or probability, chance always unfolds in connection with other determined aspects or variables so that we do not need to turn to theology to elucidate such relationships.

The chapters in the second part will be most relevant to those with interest in biological evolution but, commensurately, will be most challenging for theologians or others without training in this field. The fundamental questions regarding genetic mutations are explored in relationship to natural selection and evolutionary drift (in which the frequency of gene variations shifts over generations) and in regard to parallel evolution (thus comparing and contrasting lineages that diverged in the past from a common ancestor), noting variously that mutation is random and adaptation is probabilistic. Helpful here is the clarification of “strong” versus “weak” randomness, with the former involving stochastic (causal) processes constituted by indiscriminate and hence probabilistically equivalent processes of elemental replacements that are invariant over time (so that mutations are no more or less likely to occur at any site of that process), and with the latter involving same processes that are either discriminate (hence probabilistically un-equivalent) or variant over time, or both. The discussions in this part of the book invite theologians to be clear about how biologists are understanding and using notions of chance in their work.

The four chapters at the end of the book each take as their point of departure the work of paleontologist Stephen Jay Gould, not least his renowned theory that if we were to replay the tape of evolution all over again, we would observe very different creatures than we have now. Two of the essays delve into the details of contingencies related to the Cambrian era (the period that is most pertinent to Gould’s thesis), tracking the progression of research in the last three decades or engaging the counter argument of Simon Conway Morris and others, that niche environmental constraints suggest that such replay would inevitably lead to creatures much like we have now (due

to selection factors). The other two chapters focus on the famous *E. coli* Long-Term Evolution Experiment, which traced the evolutionary histories of twelve initially identical populations of the bacteria, in varying environments, over (by now) sixty thousand generations in order to explore the implications of such for comprehending evolutionary contingency. Consequently, siding with or against Gould is not only complicated but begs considerations in multiple directions, given the advance of knowledge at this stage.

In a prior generation, chance explanations related to the unpredictability of development or the obscurity of causal histories, thus having a more epistemological character indicative of a lack of scientific knowledge in certain areas. In the current climate, given the consensus that quantum randomness pertains at the ontological level, views of chance have shifted toward being naturally intrinsic to the way life processes are. Yet even here, historicity is crucial, particularly—as many of the essays highlight—that historicity of the pathways related to evolutionary speciation. There is no getting away from the stochastic contingencies related to gene flow and mutation but there also is no denying that such unfold amidst the selective and adaptive pressures exerted by nature and the environment. Theologians open to thinking further about the nature of chance and randomness in relationship to divine providence will benefit from, and be updated by, this wide-ranging volume.

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SCIENCE AND RELIGION

SCIENCE AND CHRISTIANITY: Foundations and Frameworks for Moving Forward in Faith by Tim Reddish. Eugene, OR: Wipf and Stock, 2016. 190 pages, bibliography, index. Paperback; \$25.00. ISBN: 9781498296045.

“What, another book on science and Christianity?” Such were indeed the initial thoughts of this reviewer. In fact, these are the introductory words of the author himself. Tim Reddish goes on to explain part of the motivation behind the book: the backdrop of the numerical decline of established churches. The author then answers his own question by explaining that the target for this work is primarily ministers and seminary students.

Reddish himself is a relatively recent seminary graduate (MDiv, 2015), from Knox College in Toronto, one of three seminaries operated by the Presbyterian