

certain extra-scientific factors (or arbitrary elements), particularly the role of psychological factors. This appeal to subjective elements opened the door to an array of other factors: sociological, economic, political, feminist, and religious (worldview).

For Morris, Kuhn's appeal to these subjective factors is an assault on truth and progress, and ultimately leads to a "denial of reality." Kuhn questioned how language attaches to the world and challenged the nature of truth, reference, realism, and progress. For Morris, Kuhn is an avatar of post-modernism. Kuhn is one who advocates "that truth cannot be anything like correspondence to reality." With reference to the recent appeal of "alternative facts," Morris adds, "This book, I hope, will serve as an antidote to those poisonous views" (p. 3, fn. 5).

Morris spells out his own frame of reference: "For me, truth is about the relation between language and the world, a correspondence idea of truth." Other theories of truth such as coherence theories "are of little or no interest to me" (p. 4). Three areas of dispute are central to Morris's account: (1) the character of paradigm change; (2) the question of incommensurability; and (3) the affirmation or denial of reality. In short, Morris argues, Kuhn characterizes paradigm change as irrational, believes communication between those holding different paradigms is impossible, and denies reality.

The Ashtray is a potpourri of Morris's encounters with other scholars. Morris appeals to scholars who affirm his general position, such as Saul Kripke and Steven Weinberg. He enters into dialogue with Stanley Cavell, Noam Chomsky, Hilary Putnam, among others, attempting to understand their reading of Kuhn. One quickly notices that Morris is extremely selective. There is not a hint of recent work by Hans-Jörg Rheinberger or pragmatic thinkers such as Joseph Rouse, Richard Rorty, or Philip Kitcher. In a way, Morris is stuck in the past, attempting, it seems, to resurrect the arguments of the day when he was a graduate student. He is also wedded to an extremely one-sided reading of Kuhn. Kuhn clearly does not deny reality. Puzzle-solving would make no sense if there were not a reality that pushes back. And Kuhn does, in fact, hold to a notion of truth. In his Rothschild lecture (Nov. 19, 1991), Kuhn states:

[If] the notion of truth has a role to play in scientific development, which I shall ... argue that it does, then truth cannot be anything quite like correspondence to reality. (*The Trouble with the Historical Philosophy of Science* [Harvard University Press, 1992], p. 14)

If Morris's reading of Kuhn's SSR (a "postmodern bible," p. 20) is indeed accurate – namely that it leads

to relativism and a denial of reality – then this could raise a pressing issue for evangelical Christians. As the philosopher James K. A. Smith expresses it in his book *Who's Afraid of Relativism?* (Baker Academic, 2014):

If all our knowledge is contingent, social, dependent, and relative, then isn't God contingent, a product of our creative impulses ... Doesn't Christian faith require that our claims about God "correspond" to the reality of God? (p. 101) [Smith denies that it does, in the sense of a correspondence theory of truth.]

For anyone wanting to relive some of the philosophical arguments from the recent past, see how one's life work could be evaluated, judged, even sabotaged, by a succeeding generation, read this book. *The Ashtray* does provide a challenge. Clearly a naïve realism is no longer viable, but what should take its place? We need, it seems, a richer and more expansive view of truth that encompasses the notion of "factual truth" so dear to the natural sciences, but which is much broader in scope and includes understanding truth as *being true*, as a way of life. Kuhn was aware of that, as he clarifies in *The Road Since Structure* (University of Chicago Press, 2000), "I wasn't saying that I want to know what is true; I was saying I want to know what it is to *be true*. And that's not something that one gets from physics" (p. 278).

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SCIENCE AND RELIGION

A RECKLESS GOD? Currents and Challenges in the Christian Conversation with Science by Roland Ashby, Chris Mulherin, John Pilbrow, and Stephen Ames, eds. Eugene, OR: Wipf & Stock, 2019. 338 pages. Paperback; \$37.00. ISBN: 9781532687389.

How do Christians in science around the world think about science and faith? What issues do they find important and why? What strategies do they use to address those issues? How do regional and local perspectives help shape the conversation? *A Reckless God? Currents and Challenges in the Christian Conversation with Science* edited by Roland Ashby, Chris Mulherin, John Pilbrow, and Stephen Ames does not seek to answer these questions—at least not for the entire world. Instead, it seeks to provide a window into the science-faith conversation that has been taking place through the Institute for the Study of Christianity in an Age of Science and Technology (ISCAST), the main organization for Christians in the sciences in Australia. Indeed, it is the first book in the ISCAST Nexus series, published in Australia

Book Reviews

by Morning Star Publishing—a series which at present also includes Mark Worthing's *Unlikely Allies: Monotheism and the Rise of Science* (Morning Star, 2019).

In between Jennifer Wiseman's foreword and Rodney Holder's reflective afterward, *A Reckless God?* consists of a collection of 67 pithy essays, interviews, and book reviews written by 35 mostly Australian contributors, some of which have been published in various forms elsewhere and including a high proportion contributed by the editors themselves. The essays are loosely organized into topics that include the historical relationship between Christianity and science, the New Atheism, natural evils, technology and creation care, psychology and spirituality, biographical examples, reflections on the prospects and state of the science-Christianity relationship, design and fine-tuning, and evolutionary biology and genetics.

Together, the essays touch on almost all aspects of the contemporary academic science and religion conversation, although some topics are noticeably absent and many others are only touched on tangentially or in passing. The book begins with an essay by Peter Harrison arguing that, contrary to myths of conflict between science and Christianity, the historical record suggests the two mutually reinforced each other. Other themes which form a common backdrop to the essays include the importance of Christian theology as a theoretical underpinning for science and a means of answering questions of meaning and existence which lie outside of science; an openness to God's "reckless" working through evolution as consistent with creational theology and the overall plan of redemption revealed in the scriptures; a willingness to see issues as answerable through a combination of reasoned philosophical discussion and the gospel; and the church's living out the gospel in the world.

Collectively, the essays lay out a convincing and impressive case for the consistency of science's picture of reality and orthodox Christianity. Readers who are open to the viewpoints represented will be both exposed to a substantial body of recent science-faith conversation, and also left with an increased appreciation of the importance of science and technology in the church's mission. They will be encouraged to see science as a means of enriching our understanding of God's character and working; to understand science-informed technology as an opportunity for created co-creators to leverage scientific knowledge in stewardship of the created order; and to delight in science-faith dialogue as an opportunity to better

discover how to faithfully live as Christ's disciples in the midst of a secular age.

Despite these impressive achievements, however, the book should not be used haphazardly as a tool to convince either unbelievers or Christians who are apprehensive over nonliteral readings of Genesis. The authors write from a distinctly Anglican background and generally assume that their readers are Christians open to an evolutionary creationist viewpoint. Thus, although some time is spent in carefully arguing for their views against those of the New Atheists, biblical literalists, and the sort of intelligent design arguments put forward by the Discovery Institute, the essayists tend to present their arguments as if to insiders, sometimes creating a seemingly ungracious us-them dynamic.

Several other limitations should be noted. First, the book is written in an informal style and freely invokes Australian public figures and jargon that will be unfamiliar to most North American readers. Second, despite the frequent use of quotations and occasional references to the impressive array of literature that might be cited in support of an idea, *A Reckless God?* lacks any sort of endnotes, footnotes, or index of its own. Third, very little science is explained in depth. Generally, this helps keep the focus on the theological dimensions of the conversation. However, at times it results in a distorted view of the relevant science. Particularly notable instances involve fears of humanity being supplanted by robots, and parapsychology's commendation by a few intellectual luminaries as sufficient reason to render it as a "gift horse," which religion should not dismiss out of hand (p. 153). Finally, the book as a whole could have used much tighter editing. Often there were two very similar essays or a series of essays that repeatedly drove home the same point. Sometimes authors seemed to lose their train of thought, moved from idea to idea without really developing any one of them, trailed off in a barrage of seemingly tangential questions, or allowed a provocative statement to stand without further explanation or development. For example, on page 105, an essay concluded by noting that "we need a genuine, working theology of the computer" without even suggesting how we might go about developing one. On page 112, readers were told that altruistic behavior among hyenas "impinges on our divine mandate to bear the image of God" as if it were self-evident what that might mean.

However, for readers who are willing to look past these weaknesses, the book offers a rich menu of food for thought and, read carefully and perhaps selectively, could serve as an excellent resource

for book discussion groups, college classes, and anyone looking to get a sense of the science and religion conversation or seeking to develop a vision of what themes might be fruitfully integrated into the North American evolutionary creationist science and religion dialogue. In this respect, the authors and editors of *A Reckless God?* are to be commended for their willingness to offer these nuggets from the Australian conversation about science and religion to the wider world.

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TECHNOLOGY

BITWISE: A Life in Code by David Auerbach. New York: Pantheon Books, 2018. 304 pages. Paperback; \$16.95. ISBN: 9781101972144.

From its subtitle, one might expect this book to be an autobiography of its author, David Auerbach. It actually includes some of that, but also quite a bit more. The author devotes over half the book to musings concerning the intersection between the humanities and technology. As he says about himself,

I have kept my feet in multiple social environs simultaneously, most often through a combination of humanities and technology work ... The exactitude of computer science provided me with useful checks on linguistic hot air. Humanistic fancy, however, enabled me to figure out what I was doing in this technocratic labyrinth, and to ask myself why I was doing it and where it was going. (pp. 80-81)

As a student, Auerbach's studies included literature and philosophy along with computer science. Professionally, he worked as a software engineer at Microsoft and Google when he was in his twenties, and is currently a writer on technology for a number of publications including *Slate* and, most recently, *Tablet*.

About two-thirds of the way through the book, Auerbach discusses the tension that led to this change in career focus. While working at Google, he became increasingly aware of the difference between a web page as data to be analyzed (the focus of his work at Google) and the *meaning* of that page. He further wrote,

I was also distressed by the disconnect I felt between my work and reality. The god's-eye view of the world's data had numbed my relations to the world ... Even in 2008 there was an increasing sense that we, the engineers, were in a significant way other from the people who used our work. (p. 194)

The author devotes several chapters to developing the key idea behind many of his musings: the contrast between discrete encoding of data (which computers manipulate as numbers), on the one hand, and meaningful descriptions, on the other. He illustrates this contrast by encodings for personality types (e.g., Myers-Briggs), attributes such as gender (57 different options in Facebook as of the time of writing), and role-playing game character attributes. He devotes most of one chapter to an extended discussion of the evolution of the encodings for disorders in the *Diagnostic and Statistical Manual of Mental Disorders (DSM)* in its third, fourth, and fifth editions. (Both the author's parents were psychiatrists, and he became familiar with this system at an early age.)

In the last chapter, Auerbach discusses factors contributing to the drive for discrete encodings:

The categorization and taxonomizing of human beings was not itself a new trend ... the emergence of mass computation in the latter part of the twentieth century enabled large-scale, centralized classification of *individuals* ... driven by national defense and advertising. (p. 225)

He takes agencies like the NSA, CIA, and TSA to task for using what he calls a "vacuum cleaner" approach to collecting data while being unable to analyze it properly (p. 226). He cites Facebook as the "centralization point for the *collection* of personal information in order to target individual consumers" (p. 229). He lists 98 axes along which Facebook can segment data; these are sometimes based on information voluntarily posted by users and others based on "information obtained from third-party sources such as car registrations, residential information, and corporate information" (p. 232).

Along the way, Auerbach muses about other matters as well. For example, in the chapter titled "Programming My Child," Auerbach begins by saying, "A few years after leaving Google, I started another long-term engineering project which is still ongoing" (p. 199). He continues by describing his daughter's newly learned skills as "upgrades" and bodily growth as "chassis replacement." This serves as a precursor to musings on similarities between individual humans and network systems such as Google and Facebook. A key characteristic of such systems is that, like persons, while individual algorithms can be replaced, the system as a whole can never be reset once it is started.

For the *PSCF* reader who is concerned about how personal data is increasingly being collected and analyzed by organizations such as Google and Facebook,