Book Reviews

explicates the creative attempts to formulate a physicotheology for Earth's historical development during the period of the Reformation. Within Reformation-era Protestantism, the principle of Sola scriptura settled the question of Earth's possible eternity. Earth had a definite beginning in (linear) time. But Sola scriptura could be employed to argue for a face-value interpretation of the genealogies of Genesis, plus a 24-hour-day view of the Creation week, to yield a very compressed Creation account. Reflexively, Counter-Reformation scholars, in their efforts to outdo their Protestant counterparts, often employed the same tactics and principles to take back the "high ground." Their efforts were also responses to the great voyages of discovery, which revealed whole segments of humanity previously unknown to the Christian world. What was the relationship of the inhabitants of the New World to the biblical genealogies? A strict appeal to the Flood of Noah as a singular Earth agent provided an anchor for a lineal descent of the American aboriginal population from Noah and therefore from Adam; they were thus inheritors of the Divine image.

Chapter 5, "The Rise of Diluvialism, 1650-1720," expeditiously covers a lot of territory that will be familiar to many of our readers. During this period, early Earth scientists, including Kircher, de Maillet, Aldrovandi, Scilla, Hooke, Burnet, Woodward, Vallisneri, and others grappled with observations of marine fossils in lavered rocks exposed in mountains. They pondered a possible relationship to the Noachian Flood, but derived disparate histories. Some retained a modified Aristotelian Earth, with a protracted history of alterations of land and sea. Some natural historians attempted to meld the rock record with a Noachian Flood in a Newtonian gravitydriven world. Others argued for the strictly miraculous nature of the Flood of Noah, that could not be expected to yield a record in the rocks. But overall, "the idea of a 'Mosaic' natural philosophy met with considerable success, and its influence was profound" (p. 127).

In chapter 6, "The Invention of the History of Deep Time, 1700-1770," Dal Prete examines a diversity of Enlightenment-era historians and philosophers. These vary from Christians (e.g., Leibniz, Calmet) to deists (Voltaire, Buffon) to atheists (de Maillet, Diderot, Boulanger, d'Holbach). Their proposed schemes for cosmic and human prehistory demonstrate varying familiarity with real Earth phenomena, as well as an expansive willingness to speculate beyond the evidence at hand. However, they realized correctly that Earth must be quite old. Unfortunately, the increasingly strident, even vicious, polemics that some of these thinkers offered against the Christian faith engendered a wide range of popular respondents. And unfortunately, many of these respondents easily seized on diluvialist versions of Earth histories to rebut anti-Creation philosophies. Thus, a century and a half before European and American rationalists invented the "warfare" thesis, a popular perception began to emerge that materialist philosophies often went hand-in-glove with the study of nature.

At this point, Dal Prete returns to Venice and northeastern mainland Italy, in chapter 7, "Political Fossils, 1740-1800." Italian translations of works of the French materialists began to appear in northern Italy in 1740. Up until this time, there had existed a strong community involvement in natural history pursuits. These included clergy: the priest Giovanni Giacomo Spada is reported to have put together a collection of fossil fishes (from the nearby site of Monte Bolca, famed among modern paleontologists) that was far superior to that of John Woodward. But after 1740, numerous books appeared arguing the diluvialist cause. Fossils were co-opted as evidences for the Flood and a young age of Earth. Dal Prete carefully chronicles how the political and economic elites of the region "elaborated a diluvialist orthodoxy allegedly supported by 'true philosophy' and 'sane science,' which appeared very different from the Earth history many enlightened Catholics conceived only a few decades earlier" (p. 183).

I found this book useful (but disturbing) for three reasons: (1) Dal Prete demonstrates that prior to AD 1700, many serious Christian scholars realized Earth was an old object and saw no theological problem; (2) the classic fairytale of some age-long conflict between Christianity and natural science began to be manufactured during the eighteenth century, long before Draper, White, and others in the later nineteenth century; and (3) Dal Prete demonstrates that the oversimplistic claims and harsh rhetoric of the diluvialists of the seventeenth and eighteenth centuries, provoked by and responding to erudite but self-important atheists, eerily presage the writings of twentieth-century diluvialists. And thus, the magnificence of God's creative activity in deep time is clouded by verbiage. Ouch.

Reviewed by Ralph Stearley, Professor of Geology Emeritus, Calvin University, Grand Rapids, MI 49546.

DOI: https://doi.org/10.56315/PSCF9-24Topham

READING THE BOOK OF NATURE: How Eight Best Sellers Reconnected Christianity and the Sciences on the Eve of the Victorian Age by Jonathan R. Topham. Chicago, IL: University of Chicago Press, 2022. 544 pages. Hardcover; \$47.50. ISBN: 9780226815763. Jonathan R. Topham's Reading the Book of Nature examines the interplay between science and religion in nineteenth-century Britain, focusing on the Bridgewater Treatises - an influential collection of eight scientific works commissioned to explore the "Power, Wisdom, and Goodness of God, as manifested in the Creation." Armed with a rich array of primary sources, Topham is particularly interested in setting this interplay against the backdrop of the evolving print culture. Topham's is not just a treatise on treatises, nor simply a history of ideas, but an exploration grounded in the lens of book history, which involves investigating the production, distribution, and reception of printed materials, including books, periodicals, and pamphlets. Topham thus wants to understand the entire "network of communication" in which the Bridgewaters were enmeshed, including publishers, reviewers, libraries, and readers.

Topham divides the book into three parts. The first examines the authorship of the *Bridgewaters* themselves, revealing the complicated (and often contested) process of "writing God into Nature" (p. 107). Chapter 1 navigates the intricacies of establishing oneself as a scientific author, which posed multifaceted challenges. Topham shows that many practical matters consumed the time of the authors, and sometimes delayed their work a great deal (p. 105). Moreover, the task of writing was rarely solitary. Topham highlights the collaborative nature of writing, emphasizing the contributions of the authors' wives and female relatives (pp. 91–105).

What is most interesting in this part, however, and which Topham emphasizes again and again throughout his book, is that the *Bridgewaters* should not be seen as mere works of "natural theology." Though the authors relate their work to William Paley's *Natural Theology* (1802), the *Bridgewaters* were not simply new arguments from design. They adopted a more comprehensive approach, examining various scientific disciplines to showcase the harmony between science and theology (p. 80). Topham introduces the concept of an emerging "theistic science," suggesting the series aimed to reassure readers that science and religion were not adversarial but rather mutually reinforcing (p. 14). It was, in short, an effort to present a tamed science tailored to align with Christian sensibilities.

In chapter 2, Topham examines the intended purpose of the treatises, such as the need to respond to popular science treatises and their alleged association with radical thought, particularly to the utilitarian approach to science advocated by such thinkers as John Stuart Mill or the materialism of French scientists such as Baron D'Holbach and Pierre-Simon Laplace. Indeed, according to Topham, it was mainly "French speculators" who motivated the *Bridgewaters* (p. 166).

In part two, Topham explores the significance of selecting a reputable publisher for the Bridgewaters. Chapter 3 gives insight into the decision to publish with William Pickering rather than John Murray. Murray was known for both its literary and scientific focus, publishing works by Jane Austen, Lord Byron, Charles Lyell, and Charles Darwin. This made the John Murray Publishing House a hub for nineteenth-century intellectual and literary circles. Conversely, Pickering was mostly known for classical literature, including works by John Milton and William Wordsworth. Because the Bridgewaters needed to be seen as "dignified" (p. 189), the authors were more philosophically (and socially) aligned with Pickering, with its focus on high-quality printing, crucial for the series' numerous iconic illustrations (p. 205). The authors settled nicely with a "publisher who was used to producing beautiful works for gentlemanly connoisseurs" (p. 224).

Chapter 4 offers a comprehensive overview of how the Bridgewaters were "serialized" - that is, how they were critically reviewed in scientific and religious periodicals. In general, the Bridgewaters were well received within academic and intellectual circles. Many scholars appreciated the efforts to reconcile scientific discoveries with religious beliefs. The series also had a notable influence on later Victorian thought, contributing to a broader conception of natural theology and the accessible popularization of science. Many religiously conservative periodicals were ambivalent if not "hostile" to natural theology (p. 246), albeit not natural theology in the traditional sense. If used properly, the "Bridgewaters could evoke suitable feelings toward God while developing an enlarged but theologically orthodox understanding of the creation" (p. 330). Periodicals less conservative than High Church and evangelical journals still found them "useful vehicles of scientific enlightenment" (p. 263). Medical and scientific journals, including the then radical Lancet, also found the Bridgewaters "trustworthy" (p. 273).

In the final section of his book, Topham focuses on case studies of "reading." Chapter 5, for instance, looks at how the *Bridgewaters* were used, remarkably, in the daily devotional reading practices of several individuals. Some readers even promoted *Bridgewaters* as courtship reading material (p. 311)!

Chapter 6 explores how Christian preachers utilized the *Bridgewaters* to reinforce theological and moral lessons and offer "a positive vision of the sciences" (p. 331). This

Book Reviews

affirmation of the "religious tendency of the sciences" was all the more important in an era marked by a growing separation of science from theology.

Chapter 7 provides an interesting examination of how the authors of the Bridgewaters constructed an image of the Christian "man of science" in an era when many scientific practitioners wanted to establish a new identity of the man of science, in direct opposition to the clerical gentlemen of science that the authors represented. As Steven Shapin has pointed out, in early modern culture the "man of science" was heterogeneous in that it attached to preexisting roles. A number of key figures spent their whole lives working within religious institutions or sustained by clerical positions, such as Nicholaus Copernicus, Marin Mersenne, and Pierre Gassendi. The argument that God had written two books by which his existence, attributes, and intentions might be known was foundational for "natural theology" to such English clerics such as John Ray, Stephen Hales, Gilbert White, and William Paley. The naturalistparson, Shapin contended, belonged to the century's inventory of recognized characters, and the scientific portion of his activities was understood to flow from some version of what it was to be a minister.

But this "priestly" role is seen almost concurrently in other key figures who spent much of their careers as amanuenses, clerks, tutors, or domestic servants to the gentry and aristocracy. With the advent of the eighteenth century, we witness a vast expansion in the numbers of scientifically trained people employed as civic experts in commerce, the military, and government. The man of science as godly naturalist and moral philosopher buckled under the emerging identity of the valued civic expert. While professorial and medical roles included the "pious naturalist" and, more specifically, parsonnaturalist, especially among Protestants, there was a growing perception by the beginning of the nineteenth century that men of science were objects of "religious suspicion" (p. 375). Thus the authors of the Bridgewaters strategically reemphasized "the vision of the man of science as pious, patient, and humble" (p. 390), "embedded within Christian orthodoxy and as inculcating Christian habits of mind" (p. 429).

Chapter 8 examines how the *Bridgewaters* influenced the scientific practices of notable readers such as Charles Babbage, Charles Darwin, Robert Chambers, Richard Owens, and William Carpenter. Topham illustrates how the *Bridgewaters* functioned as a foil, enabling them to negotiate between arguments advocating for intelligent design and those rooted in empirical scientific observation. The irascible Babbage, for instance, who published his own unauthorized *Ninth Bridgewater*

Treatise, appreciated the design arguments presented in the series, but offered a radically different "vision of God's agency" (p. 436) which amounted to little more than deism. Darwin, moreover, included an epigraph from Whewell's *Bridgewater* at the start of his *Origins of Species*, but the two ultimately disagreed on the mechanism of evolution.

In his conclusion, Topham returns to the Bridgewaters as promoting a "theistic science" serving "to assure a generation that the rapidly changing disciplinary sciences ... would feed rather than undermine Christian faith" (p. 471). They were a "godsend to the sciences," he writes, convincing the public that the progress of science was not inimical to Christianity (p. 473). At the same time, the theological meaning of the Bridgewaters was "somewhat ill defined," in part since most authors came from strikingly different theological orientations (p. 474). Topham concludes, as I did in my research on the liberal Christians John W. Draper and Andrew D. White, who are often labeled "co-founders" of the "conflict thesis," that science and religion are fundamentally at war. While Draper and White believed that their liberal theologies offered a reconciliation of science and faith, secularists, free-thinkers, and atheists used their narratives as weapons against all religious traditions.

Similarly, Topham notes how the *Bridgewaters* led many radical thinkers, such as George Holyoake, to see theistic science as "hopelessly outmoded" (p. 477), hollow, and ultimately constraining science (p. 478). There seems to be a lesson here that, for whatever reason, today's theologians and Christian men and women of science keep ignoring.

Reviewed by James C. Ungureanu, PhD, Carthage College, Kenosha, WI 53140.

NEUROSCIENCE

DOI: https://doi.org/10.56315/PSCF9-24May

NEUROETHICS: Agency in the Age of Brain Science by Joshua May. New York: Oxford University Press, 2023. 340 pages. Hardcover; \$110.00. ISBN: 9780197648087. Paperback; \$29.95. ISBN: 9780197648094.

Neuroethics, "the study of moral issues that are either raised or answered by neuroscience" (p. 4), is a relatively young field, whose origins are generally traced to the early 2000s. Despite its rapid growth since then, it remains unfamiliar to many, and over the years, numerous introductions and overviews have been written to make it more familiar. Joshua May's new book, the latest in this line, is described as an "opinionated introduction" (p. 9). It has grown out of the author's undergraduate course in neuroethics and is written partly