History of Science

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BY THE NUMBERS: Numeracy, Religion, and the Quantitative Transformation of Early Modern England by Jessica Marie Otis. Oxford University Press, 2024. xi + 264 pages, including notes, bibliography, and index. Paperback; $28.99. ISBN: 9780197608784.

Picture the historical development of mathematics as a grand building project. The bottom floor houses basic arithmetic and elementary geometry with numerous openings to the surroundings of ordinary life. It also forms the foundation for higher stories in the superstructure—algebra, calculus, probability, statistics, and much more—all of which are linked to other structures in the neighborhood—the various physical sciences, economics, technology, and others. Under this metaphor, *By the Numbers* portrays the rudimentary furnishings in the room of arithmetic on the ground floor and their role in 16th- and 17th-century England.

Otis has an educational background in both mathematics and history. This monograph, which is a revision of her 2013 history dissertation, combines these two interests but leans toward the humanities, paying close attention to the social setting. Based on meticulous research, Otis shows in granular detail how early modern English men and women came to embrace a new technology of knowledge, learning to read and write, and eventually to reckon with (Hindu-)Arabic numerals in the context of their everyday life. The religious environment here was a widely shared Christian worldview holding that God had created and ordered the universe, as the apocryphal *Book of Wisdom* claimed, by "number, weight, and measure." Thus, Robert Recorde could assert in his influential 1543 *The Ground of Arts* that number and arithmetic provide the foundation for all human affairs. Given mathematics' limited reach at the time, *By the Numbers* terms the attendant societal transformation *quantitative*, though this was soon to become a broader and deeper movement of *mathematization*, as algebra, analytic geometry, and calculus became central to scientific theories.

The book is divided into two main parts. The first part (chapters 1–3) tells how Arabic numerals became more widely used in English education and accounting practices and how they came to be the basis for symbolic computational procedures, joining together recording and reckoning. The second part (chapters 4–6) explores three case studies in which the new arithmetic pervaded and transformed daily life and work: people's sense of time and calendar reform, events of chance and God's providence, and the rise of political arithmetic—data collection and the increased use of governmental statistics. These parts are bookended by an "Introduction" and a brief "Epilogue" that look at innate human capabilities with respect to number and arithmetic, that summarize the topics under consideration, and that connect them to the religious outlook of the time period. The book concludes with a few observations about further developments in which number and mathematics became more deeply entrenched in English society.

The story begins by describing how earlier English cultures recorded quantities using tally sticks or Roman numerals, and it explains how addition and subtraction were done concretely on one's fingers or on a counting board. Here, recording and calculating were performed separately, operations that changed for good once Arabic numerals became more widely adopted by the mid-17th century. Otis exhaustively examines the status and character of vernacular arithmetic texts composed for teaching and learning the new literate way of computing with symbols (over 150 texts are listed in her 39-page bibliography, counting reprints—32 by Recorde alone). She notes that written calculations have the advantage of speed and of recording intermediate results that can be checked to verify the final answer, though she fails to exhibit any of the computational procedures themselves. She also observes that as time went on arithmetic texts began to include more advanced topics, such as fraction arithmetic (common and decimal), proportionality, elementary algebra, logarithms, and trigonometry. She draws no conclusions, however, on what influence these new mathematical developments had on the increased acceptance of Arabic arithmetic, even though some of these (decimal fractions, logarithms) provided simplifying extensions of the system itself during the time period considered.

Religion fits into the story by supplying the medium in which work with numbers and computations could flourish. But it was also responsible for some points of tension. The calendar was important to the practice of religion especially because of its use in calculating a date for Easter. Partly because Protestant royalty was wary of moving closer toward Catholicism, England maintained its traditional Julian calendar until 1752, instead of completely switching over to the more accurate Gregorian calendar nearly 75 years after much of Europe had converted their date-keeping.

Differences of opinion involving quantified chance and luck (odds in games and gambling, insuring belongings and life against risk of loss, astrological predictions)

seemed to challenge God's providence and the natural order, but in the end, chance occurrences, which included miraculous divine interventions, were seen as being under God's sovereign control. While a more probabilistic view of events was beginning to come to the fore, the science of probability wasn't founded until the late 17th century.

The same was true of statistics. Taking a national census of the population for fiscal purposes was thought by some to be akin to King David's disobedient numbering of military-aged men, but by the 17th century the government increasingly used demographic statistics for taxation and policy purposes. Collecting data became more widespread in the 18th century, providing a statistical way of understanding and dealing with a range of social and economic issues.

Time, chance, and numerical data provided arenas in which the new field of Arabic numerals and arithmetic could show its worth. Otis doesn't move into areas of science or relate English developments to those on the continent but notes that mathematics was becoming more indispensable during this period. *By the Numbers* is constrained as indicated by its subtitle, both in time and place, but as such it is an important resource for understanding how Hindu-Arabic numeration and arithmetic became entrenched in one culture in the early modern era. It will be of interest to anyone wishing to explore this aspect of culture and elementary mathematics more deeply.

Reviewed by Calvin Jongsma, emeritus professor of mathematics, Dordt University, Sioux Center, IA. He is currently developing an extensive annotated database on Religious Faith and the Mathematical Sciences.

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PROTESTANT MODERNIST PAMPHLETS: Science and Religion in the Scopes Era by Edward B. Davis. Johns Hopkins University Press, 2024. xvi + 316 pages. Hardcover/Ebook; $64.95. ISBN: 978142144982/ISBN: 9781421449838.

How did liberal Christian intellectuals and scientists understand the relationship between religion and science during the fundamentalist-modernist conflicts of the 1920s? Given the amount of scholarly ink spilled in consideration of the 1925 Scopes Trial, one might reasonably expect that question to have been satisfyingly answered long ago. However, as Edward (Ted) Davis, professor emeritus of the history of science at Messiah University, argues, we "still know very little" (p. 5) about the actual ideas of Christians who embraced evolution. Davis has done much to address that shortcoming in this thorough, incisive study of ten pamphlets on religion and science published by the American Institute of Sacred Literature (AISL) during the 1920s and 1930s.

Though virtually unknown now, the pamphlet series was hugely significant at the time. Authors included some of the nation's most prominent scientists as well as eminent ministers and theologians. With significant funding from John D. Rockefeller Jr. and "hundreds of individuals, churches, and other organizations," all meticulously catalogued by Davis, "perhaps as many as one million copies" (p. 57) were published and sent to "tens of thousands of prominent Americans and a comparable number of ordinary folk, especially college students and church members" (p. 64).

The book begins with three original chapters by Davis, each of which addresses an important element of the history of these publications. The first chapter explores their origins in the emerging debate between fundamentalists and modernists about the nature of science. As exemplified by their most prominent public figure, William Jennings Bryan, the fundamentalists held to a Baconian definition that distinguished between established fact and theory. By the 1920s, this "allowed them to reject evolution without seeing themselves as rejecting science" (p. 15). In response, Davis notes, a cohort of religious scientists increasingly "sensed danger in letting Bryan be the only religious voice" speaking on evolution. This perception dovetailed with a concern that the popular conception of evolution as "irreligious" (p. 20) constituted "the most serious obstacle to teaching it" (p. 22). In the popular framing, people had to choose to maintain their Christian commitments or accept modern science. Modernists wanted to make it possible to do both.

Chapter 2 considers the production and reception of the pamphlets themselves. As liberal Christians concluded that they needed their own response to Bryan, they devised the series as a vehicle for addressing not only evolution but other issues of religion and science as well. It is here that Davis offers some of his most significant contributions. He notes that the decision to solicit contributions primarily from eminent scientists at elite institutions "reveals wonderfully the degree to which the modernists accepted the hegemony of science and its definition of knowledge" (p. 57). Davis also does an admirable job of reconstructing how the pamphlets were received; his efforts reveal important limits of their effectiveness. He notes that the "gap between" the "elite scientists" who wrote them and "the wide audience that the AISL hoped to reach" was "not always easy to cross, on both scientific and theological avenues" (p. 73).

Therein lay what Davis suggests was the greatest failure of the project: there was simply "no consideration of what to do when the majority find the conclusions of an academic elite patently offensive" (p. 78).

Chapter 3 elaborates on precisely why the pamphlets were offensive to many American churchgoers. Unlike earlier generations of religious intellectuals who accepted some elements of evolutionary theory while maintaining their belief in traditional Christian doctrine, the modernists of the 1920s were determined to accommodate their faith to evolution, which, in their view, "had changed almost everything" (p. 89). They "all but discarded divine transcendence" and other historically critical elements of Christian belief; their views proved to be a step too far for many intended readers (p. 90).

Following these chapters, Davis provides annotated versions of the ten pamphlets, complete with intellectual and religious biographies of each author. Depending on their personal interests, individual readers will likely find some more interesting than others. Edwin Brant Frost's "The Heavens Are Telling" and Michael Idvorsky Pupin's "Creative Co-Ordination" are notable, however, for providing the most intriguing departures from the usual liberal religious discussions of science of the day.

In excavating these ten pamphlets, Davis has done a real service by looking beyond the Scopes trial to another significant site of public discussion of religion and science during the 1920s. As the primary intellectual opponent of the modernists, William Jennings Bryan certainly looms large here. Nevertheless, *Protestant Modernist Pamphlets* makes a crucial contribution by exploring the emergence of a liberal religious discussion of science before the Scopes Trial while also exploring how the concerns of these liberals grew beyond evolution. Davis further makes an important contribution by highlighting the imperfect alignment between the fundamentalist-modernist debates of the 1920s and the sides taken in contemporary culture war battles. Given how these events a century ago inform ongoing political debates, it is notable that it was the anti-evolutionist Bryan who worried about the "exploitation of workers" and "the destruction of democracy" (p. 12). By contrast, it was some of the pro-evolution Christians who were dabbling in "eugenics and euthenics seasoned with scientific racism" (p. 23).

At its heart, Davis's volume seems to be a lament for a lost middle ground. He notes that even readers at the time perceived the "absence of intermediate positions" in the "pamphlet war" (p. 95). To the extent that a historical study has heroes, the ones of Davis's work seem to be late-nineteenth-century intellectuals whose work was often dismissed by the 1920s. These were the "voices of comparable magnitude" to the authors of the pamphlets who in their day had "affirmed both evolution and the ecumenical creeds" (p. 83). They accepted science but did not cede as much authority to it as the modernists did.

Yet, one cannot help but wonder just how possible it would have been to maintain these intermediate positions. The examples Davis provides of pre-1900 intellectuals who accepted evolution while maintaining "orthodox Christian beliefs" actually accepted evolution in a very limited way, such as by excluding humans entirely from the process (p. 82). Perhaps the reason such people could not be found in the 1920s is that their balancing act proved virtually impossible in the twentieth century.

For his part, Davis seems to believe that finding such middle ground remains possible. In his final pages, he offers three recent exemplars of the perspective he finds lacking in the 1920s. This discussion is regrettably brief, however. Davis's acknowledgment of his limitations—that he is "a historian, not a prophet" (and, by extension, not a pundit)—is admirable (p. 103). But in light of his own apparent commitments and given that, in our own moment, science is as polarizing as it was in the 1920s, readers might well wish that Davis had offered more lessons from history about the possibilities of reaching a consensus position rather than settling for the "stark choice" offered by these pamphlets (p. 103).

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Medicine and Health

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THE ETHICS OF PRECISION MEDICINE: The Problems of Prevention in Healthcare by Paul Scherz. University of Notre Dame Press, 2024. 194 pages. Hardcover; $40.00. ISBN: 9780268209056.

Why do people have yearly checkups? Why do we have blood tests for risk factors such as cholesterol? Why are there cancer screening programs? These are examples of managing risk, and this is a realm of precision medicine. Rather than accept these developments at face value, Paul Scherz is concerned that, as the number of conditions is surveilled and treated, an increasing number of people find themselves caught between health and

disease. They are not ill but are anxious that they may become ill.

The author is the Our Lady of Guadalupe Professor of Theology at the University of Notre Dame. While he has a PhD in genetics and a PhD in moral theology, it is theology that drives his arguments in this book as well as his emphasis on virtue ethics.

The goal of virtue ethics is to help people flourish in all aspects of life: physical, social, intellectual, and spiritual. Although generally used in bioethics, virtue ethics is encountered most frequently in theological ethics, in this case by a Roman Catholic ethicist. For Scherz, people flourish when treated within a medical establishment characterized by justice, temperance, and courage.

His background in genetics means he has sympathy with developments in managing risk. However, as interventions such as pharmaceuticals and surgeries used in response to risk factors, increase in frequency, the side effects from them create their own problems. Society ends up facing overtreatment, overdiagnosis, and social control. For example, an estimated 55–72 percent of women with mutations of the BRCA1 gene develop breast cancer, compared to 13 percent of women in the population at large. Some women will undertake drastic preventive measures, such as prophylactic double mastectomies, when they are informed that they have a mutant BRCA1 allele.

Scherz correctly observes that genetics is unable to predict an individual's personalized risk; it only places them in a stratified risk group. The way in which that risk score is applied to an individual requires a great deal of interpretation. Herein lies the tension between assessing what is best for both the individual and the population.

Scherz's use of virtue ethics to examine the ethics of precision medicine within the broader framework of preventive health care will come as a disappointment to readers who may be looking for more-specific critiques of biotechnological innovations in precision medical treatments. Other books such as *The Personalized Medicine Revolution* by Pieter Cullis or *Advancing Health Care Through Personalized Medicine* by Priya Hays would be the places to start. They tend to be directed at healthcare professionals and deal incidentally with ethical issues.

Scherz does not deny that personalized medicine has potential in some treatment areas, but his concerns are far wider. He worries that medicine is moving away from treating people as individual human beings within a specific social context, and toward a view based on their risk exposure. This is not bioethics, as usually understood, with its concerns around paternalism, reductionism, and justice. He wants to ensure that our approaches do not lead to a total medicalization of life dominated by medical control with loss of a vision of people as human beings. This is where his theological concerns come to the fore.

Scherz brings most of his ideas together in the final part of the book by delving into prevention and the social determinants of health, regimen, genomics, and institutions of slow medicine. The concept of regimen emanates from Greek medicine and refers, for example, to regular practices of eating, sleeping, and exercising—all of which were regarded as contributing to health. In modern life, Scherz is aware that these can be reduced to little more than adopting a reductionist culinary framework. He does not want it to be seen as simply counting calories and being guilty whenever one fails.

He seeks a better way, one found in the ancient philosophers, such as Clement of Alexandria, Thomas Aquinas, and the Desert Fathers. For them, a regimen reshaped their habits around diet and exercise. This illustrates how Scherz's firm Christian convictions underpin his ethical framework, which centers on what is best for humans in community.

Scherz is fully aware that his critiques of many modern medical values, such as cost effectiveness, autonomy, auditability, and scalability, will lead nowhere without an alternative direction based on other values. He finds this alternative in what he describes as institutions for slow medicine. He unpacks this alternative by describing specific institutions that fit this description. One is Mercy House, a home for children run by a Franciscan order of Ugandan nuns. It is not efficient by the standards we normally use, but it cares for people in need; this is a basic Christian benchmark.

He acknowledges that this kind of slow medicine institution is unintelligible to modern accountants, risk analysts, and policymakers. But it has much in common with hospices by making room for caring. This, he argues, stems from the religious motivation of Christian charity and, while it may never gain wide acceptance, it can be provided locally.

Scherz insists that medical practice will benefit individuals only when based on the virtues of justice, solidarity,

and temperance. Risk management is useful only when governed by prudence and virtuous practice. It is a pity that the reader has to work hard at following his closely knit arguments, but for those who do so, there is a great deal of rich material here.

What came through to me is that, in being prepared to accept risks, we begin to acknowledge our own mortality. These are Christian themes we would do well to take seriously, even if we would like to have seen more space devoted to the host of ethical issues raised by specific technological developments in the biomedical area. I recommend this book for readers willing to engage with a thoughtful and nuanced Roman Catholic approach to public health ethics.

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A THEOLOGY OF HEALTH: Wholeness and Human Flourishing by Tyler J. VanderWeele. University of Notre Dame Press, 2024. 392 pages. Hardcover; $45.00. ISBN: 9780268208332. Ebook; $2.99. ISBN: 9780268208325.

A Theology of Health is a book that epidemiologist Tyler VanderWeele wrote for a course he teaches at Harvard School of Public Health. Rather than writing from a neutral pluralistic perspective, he elected to write from a Roman Catholic perspective, the religion that he currently practices. (He had been a Presbyterian and an Anglican in the past.) He found that material presented from a coherent Catholic perspective was well received by his students, whether they were persons of faith or not.

The bulk of the book is divided into three parts: Health and Wholeness; Ill Health and Sin; and Healing and Salvation. Within each part, there are multiple chapters that are divided into a series of propositions. Supporting evidence is provided to justify them. The final chapter in each part is devoted to the implications of truths considered in the prior chapters. VanderWeele combines evidence from Scripture, Catholic doctrine, and peer-reviewed science to create a rational, integrative understanding of health, wholeness, sickness, sin, redemption, and healing. He respects all three epistemologies without being too dogmatic. He also recognizes the minor differences between traditional Protestant and Catholic theology, such as the number of sacraments and the mechanisms of their efficacy. His high view of Scripture, which he regards as solid truth, might be an irritant to those with "progressive" theological viewpoints. He also includes a brief nontheological postscript, which argues that many of the measures that improve health of the body or health of the person apply to Christians and non-Christians alike. Love, hope, forgiveness, and pious character are marks of a heathy person. Communities rich in opportunity, justice, peace, and neighborly love contribute to the health of its members regardless of their faith.

Part I begins with the World Health Organization's definition of health as "a state of complete physical, mental, and social well-being and not merely the absence of disease" (p. 12). VanderWeele rightly defines physical health as not only the absence of disease but also a state of physical fitness. Mental health is more than a healthy brain; it entails stimulation, proper use of the mind, and intervals of rest. Health (or what might be considered by some to be human flourishing) extends beyond physical and mental health. It requires healthy relationships, purpose, balanced work and leisure, character development, and spiritual health.

In Part II, the author explores how illness can result from sinful behaviors, such as drunken driving, immoral sexual encounters, and poor exercise and eating habits. We may also suffer ill health because of an abusive spouse, societal injustices, pollution, or lawless behaviors. Certainly, illnesses and suffering occur that are not directly preceded by a sin of the victim or an offender or by injustices in society. These illnesses and sufferings should be recognized as a part of the curse we are all under because of original sin. Perhaps the most easily recognized effect of original sin is the frailty that comes to all humans because of the aging process. VanderWeele traces the presence of sin to a historical or a metaphorical Adam. He does not take sides on this question, conceding that there are faithful Christians on both sides of this controversy. Probing this topic would distract from the book's purpose of giving a clear theology.

The central thesis of the final part of this book is that restoration and fulfillment of health is "salvation." This is the most theological of the sections. In this regard, he follows the Christian concept of the redemptive-historical timeline: creation, fall, redemption, and restoration. He believes that complete restoration will occur after death (and purgatory). In heaven, believers will be fully united with God and experience the elimination of sin, of suffering, and of any illness. During this life, complete wholeness is not possible, but one should strive toward achieving this ideal by recognizing sin and its effects. Healing of the person will require communion with God. The direction of one's life should be toward less sin and greater love for God and one's neighbors.

Empowerment for such healing will come from loving God and living in friendship with him. Spreading love in the community, including to one's enemies, will lead to wholeness in the community.

A Theology of Health is written as a textbook and is not written for a casual reader who might be interested in a book on health or preventive medicine. This book is not illustrated with captivating stories that would lighten the text while still making moral arguments. It is intended to be systematic; some might be bothered by repetition that is intrinsic to this format. Other books in this genre include Jean-Claude Larchet's *Theology of Illness* and Neil Messer's book *Flourishing*. VanderWeele acknowledges the contribution of these books to the writing of his own book. Larchet's 1991 book was written from an Orthodox perspective. Messer writes from a Reformed theology perspective, publishing his book in 2013. Compared to VanderWeele's work, these earlier books more directly address controversies in medical ethics.

I admire the author for his scientific work in epidemiology methods and his publication of other textbooks more germane to this book, most notably his co-editorship of *Handbook of Religion and Health* (third edition, 2024) along with Harold Koenig and John Peteet. Peer-reviewed studies on which he is a co-author are among the many public health studies cited.

I know many Christian physicians and medical professionals who would benefit from reading this book. Pastors and chaplains who minister to the spiritual needs of the sick would be better able to appreciate their work as an important part of healing. I plan to use this book in a study with the three young physicians I am mentoring.

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Psychology/Neuroscience

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THE IMMORTAL MIND: A Neurosurgeon's Case for the Existence of the Soul by Michael Egnor and Denyse O'Leary. Worthy Books, 2025. 272 pages. Hardcover; $29.00. ISBN: 9781546006350.

The existence or nonexistence of a nonmaterial soul or mind cannot be proved or disproved. All that can be done is to muster evidence that seems to imply one answer or the other. Egnor and O'Leary have written what they believe to be a case for the existence of a nonmaterial soul/mind. The question remains whether the evidence provided, and their interpretations of that evidence, prove compelling.

The authors begin with Egnor's religious experience and his commitment to prove that science can create space for the supernatural. While science writer O'Leary serves as co-author, Egnor appears to rely on his own expertise to then assert a difference between the brain and the mind, assigning the mind both an independent status that later moves to the assertion of the mind's independence of death. The authors use these assertions to advance a case for the immortality of the soul, a free will that acts independent of causation, and ultimately the mind as evidence of God's design. To address a more contemporary concern, Egnor and O'Leary conclude by asserting that this understanding of the mind also challenges the possibility of artificial intelligence.

They present a "soul of the gaps" argument that begins with the assumption that if you cannot demonstrate a localized place in the brain where a mental function is specifically processed, then that mental process must be accomplished by a nonmaterial soul (or mind). Even though Egnor is a professor of neurosurgery, the neuroscience and neuroanatomy discussed appear outdated and/or selectively presented in ways that mislead the reader. In essence, this book constitutes not a rational argument based on a weighing of evidence, but a polemic treatise.

A striking example occurs through the authors' descriptions and conclusions regarding the outcome of "split brain" surgery. These patients have had all or part of their cerebral commissures (the connective pathway between the right and left cerebral cortex) severed to control the spread of epileptic seizures. The authors propose that since these persons, despite a "split brain" (commissurotomy), continue to act and think as a unified person, the mind (conflated with soul) cannot be a product of the functioning of the brain. For example, they write, "Even when the brain is split in half, many important aspects of the mind remain unified. Thus, *the mind is something that the brain isn't*" (p. 19).

However, as I presume neurosurgeon Egnor must understand, the *brain* is not split in half. Although the surgery is colloquially labeled a "split brain," only the cerebral cortex is split. The majority of the brain is not split. The diencephalon, midbrain, and brainstem are all still unified with bilateral interactions. For example, the cerebellum in the brainstem has right-left commissures

involved not only in sensorimotor and vestibular functioning, but also in aspects of cognition and emotion. Thus, one would not expect splitting of mind or personhood when cutting only the right-left connections in the cerebral cortex. What is more, the case presented by the authors as an illustration of what is preserved in a person with a "split brain" involves a *callosotomy*, not a commissurotomy—that is, the surgery leaves intact three smaller cortical right-left interactive pathways. This illustration is puzzling and grossly misleading.

A similar form of misrepresentation of neuroscience comes from a focus on old theories of cortical localization of cognitive functions. It is now clear that the highest forms of mental processing emerge from the interactive functional coupling of large cortical areas. For example, there is the *default mode network* associated with internal thought and self-reflection; the *salience network* is involved in detecting and processing important external and internal information; the *attentional network* subserves focused attention; and the *control network* is involved in cognitive control and decision-making. Each of these networks involves a different pattern of cortical interactivity from which emerges a particular form of higher cognitive functioning.

In contrast to this current view of cortical functional networks, Egnor and O'Leary describe cortical functioning in terms of concepts of localization—surprisingly, supporting their arguments with the work of Canadian neurosurgeon Wilder Penfield (1891–1976). While doing neurosurgery for the treatment of epilepsy, Penfield electrically stimulated various points on the surface of the cerebral cortex, observing the impact on sensory, motor, language, and memory functions. The research of Penfield had, at the time, a significant impact on the understanding of cortical functioning as based on very local brain circuits each of which is responsible for a particular facet of cognitive functioning. The authors argue from this neurosurgical work that the highest mental functions cannot be based on brain functioning because you cannot find a point on the brain that you can electrically stimulate to impact these higher forms of processing. However, this outcome of point-by-point electrical stimulation is exactly what you would expect if the highest forms of mental processing emerge from the functional interactivity of large cortical networks.

A strength of this book is the descriptions of different persons with major brain abnormalities who nevertheless function relatively well. These cases are indeed remarkable. Two of the conditions described are removal of an entire cortical hemisphere for the treatment of intractable epilepsy (hemispherectomy) and the congenital absence of the corpus callosum (agenesis of the corpus callosum, or ACC). My students and I have studied both conditions extensively. It is indeed remarkable that many of these individuals function so normally. However, these brain abnormalities are not without consequences in their highest forms of mental functioning. For example, our recent research has demonstrated that persons with ACC, even when their IQ is within the normal range, have deficiencies in their capacity for creativity.

What the authors do not seem to be able to countenance, but what the majority of neuroscientists would conclude from these cases, is the extensive *redundancy* of brain systems, as well as neural *reorganization* known as plasticity. Brain systems exhibit a lot of redundancy of behavioral control both within smaller cortical neural circuits and between cortical and subcortical systems. If one area is damaged or abnormal, a lot of yet-still-sophisticated control is available for an adaptive workaround. Plasticity suggests the capacity for neural reorganization, such that preserved neural networks can assume some of the function of damaged or abnormally developed tissue. Neural plasticity is not a minor issue; it is the very basis of child cognitive development and adult learning and memory.

Unfortunately, the authors present a polarized view of the problem they address. For them, there is either a "materialist" or a dualist view. This polarity demonstrates several fundamental problems. First, using the term "materialism" semantically biases the discussion by using a term connoting mechanistic, rather than physiological, functioning. Physiology is alive and dynamic in critically important ways that mechanisms are not. In addition, the authors ignore the more subtle middle position of emergent physicalism, in which mind emerges from physiological functioning but is neither nonmaterial nor entirely reducible to its physiological functional parts (neurons or neural subsystems).

Finally, the authors presume that any physicalist view must be non-Christian. They ignore a large literature on Christian physicalism in which humans are understood as part of God's physical creation. Given the incredible complexity of our neurophysiology, humans have emergent mental properties capable of abstract thought, significant degrees of free will, and comprehending (however incompletely) the presence of God in the world. This neurophysiological complexity, and its consequences in human thought and intelligence, is the miracle of human creation—a perspective *The Immortal*

Mind overlooks in the authors' effort to prove the existence of the soul.

Reviewed by Warren S. Brown, Professor of Psychology, Graduate School of Psychology, Fuller Theological Seminary, and founding director of the Travis Research Institute, Fuller Theological Seminary.

Science and Faith

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SCIENCE AND THE SACRED: Beyond the Gods in Our Image by C. S. Pearce and Philip Clayton. Cascade Books, 2025. 192 pages including notes. Paperback; $26.00. ISBN: 9781666769951. Hardcover; $41.00. ISBN: 9781666769968. Ebook; $9.99. ISBN: 9781666769975.

Protestants for whom neither atheism nor fundamentalism is an option face a declining menu of choices. On the American scene, there was a time when evangelicalism claimed a spot on that menu; however, its generation-long alignment with reactionary politics has rendered it unattractive for some Protestants. For the latter, the only thing left is some species of liberal theology.

Science and the Sacred is one such species. It is for people who want to believe in God but who can no longer believe that God rules providentially and intercedes miraculously. It is, in short, for many Christians who take the results of the sciences with the utmost seriousness. Accordingly, the first part of the writing presents the reader with quick overviews of current cosmology, evolutionary theory, and neuroscience, along with the consequences of these fields for theology. The upshot is twofold: (1) modern sciences make it impossible to hold such traditional beliefs as that God created the world by *fiat* and that humans occupy a special place in the universe; and (2) at the same time, these sciences "offer better opportunities for enlightenment, wisdom, insight, and integration than were possible in previous eras" (p. vii). Scientific knowledge thus takes away but also gives, and the net result is a gain, for this knowledge yields "spiritually promising possibilities" (p. 25).

Two insights from science are especially salient in the text: (1) all things are interconnected; and (2) a better future for humankind is possible, but achieving it depends on us. The first testifies to the vaguely Whiteheadian subtext of this book; the second results from its rejection of divine omnipotence, which is likewise part of the same subtext indebted to Alfred North Whitehead's process philosophy. The writing results in a sort of religious humanism: there is a God who is loving but is also not the sort of being who can directly effect change in the world. Therefore, it is up to us humans to implement God's vision for the world and thus make it a better place. To that end, the sciences provide us with useful knowledge and help us jettison theological concepts (especially divine omnipotence) that no longer make sense from the authors' perspective.

As an exposition of one variety of contemporary liberal theology, *Science and the Sacred* possesses certain virtues: it is succinct and lucid. Within the limitations of its genre—it is not intended to be a technical discussion—it does a good job of making the case that religious folk should take the results of the sciences seriously, even if doing so means modifying or even rejecting some long-held beliefs.

This book does have some weaknesses. Given its short length, *Science and the Sacred* is not able to offer lengthy arguments for its theses. This self-limitation is not a fatal flaw; we need books that are aimed at audiences who lack patience with or background for lengthy arguments. However, 192 pages is not sufficient for the book's scope. For instance, chapter 9 ("Holy Books and Miracles") ventures into Christology. We learn, for example, that Jesus taught "a message of relational love" and that the main point of his ministry was to inspire "a tremendous love and desire to follow his teachings" (p. 107). Readers can judge for themselves whether these features truly capture what Jesus was mainly about. We learn as well that "Jesus did not create Christianity with himself as God; his followers did" (p. 109). This sort of statement assumes that we know more about the historical Jesus and about the origin of the New Testament than seems warranted. The authors have carefully cherry-picked their way through New Testament scholarship to support their view of Jesus and the New Testament—not that they are alone in this strategy.

One of the curious features of this book lies in one of its more subtle arguments, which comes down to the claim that the authors' views are becoming mainstream and will likely constitute a majority view within religious circles. The authors tell us that "a growing number of religious and spiritual thinkers" prefer evolutionary theory to traditional scriptures when it comes to understanding creation (p. 27) and that "a rapidly growing number of us" reject a literal view of Jesus's resurrection (p. 111). Empirical claims of this sort are exceedingly difficult to substantiate. Readers may suspect that they reflect not large-scale demographic trends but, instead, the experiences of people in the authors' circle of acquaintances.

Related to this feature is the claim that the notion of God advanced by the authors "works well within most of the [world's] faith traditions, except in the most fundamen-

talist branches" (p. 106). This claim makes it appear that Buddhism, Hinduism, Islam, Judaism, Shinto, and other "traditions" are really all talking about the same thing when it comes to the idea of God. This assertion provides another doubtful claim, but it is part of the book's commitment to the notion of a perennial philosophy, according to which there are "deep mystical traditions shared by the world's largest religions" (p. 38). Once again, readers can judge for themselves whether the particulars of a given religion (e.g., traditional Christology) are disposable accretions artificially attached to the universal, mystical core that lies at the heart of every religion—or at least the largest religions.

Who should read this book? Christians with conservative beliefs who read it will get a good sense of the current state of liberal theology. Liberal Christians will find a clear articulation of typical liberal beliefs and modes of argumentation.

Reviewed by Samuel Powell (PhD), former professor of philosophy and religion and Dean of the School of Theology and Christian Ministry at Point Loma Nazarene University, San Diego, CA. Powell's publications include Participating in God: Creation and Trinity *(Fortress Press, 2003).*

DOI: https://doi.org/10.56315/PSCF12-25Keathley

FAITH AND SCIENCE: A Primer for a Hypernatural World by Kenneth D. Keathley. B&H Academic, 2024. 160 pages, including subject and Scripture indices. Paperback; $21.99. ISBN: 9781087771434.

In his latest book, Kenneth Keathley, professor of theology at Southern Baptist Theological Seminary, demonstrates that Christian faith and science possess two compatible perspectives of the world. The subtitle of the Introduction, "This Is Our Father's Hypernatural World," generates interest through the juxtaposition of a beloved hymn title and the term hypernatural. The hymn title refers to Keathley's love of Christian tradition and his deep faith. Hypernatural indicates his take on how these two subjects, which many find contradictory, work together to help Christians understand both the world we live in and our Christian faith. This well-researched book progresses through a basic introduction of science and Christian faith (chaps. 1–3), includes an extended treatment of God at work in the origins of life (chaps. 4–8), and concludes by "inviting young believers [to consider] a future in one of the STEM fields" (p. 2). It is written in an accessible style suitable for students and those first encountering the topic.

Keathley starts by discussing how faith and science relate to each other. Following ancient Greek philosophy, he uses an illustration of building a house and clearly shows that *why* something happens, both the formal planning (the blueprints) and the underlying motivation (desire for a home), provide an understanding of causation that proves different from *how* something happens, including both material resources (the supplies needed) and dynamic/efficient causation (the construction workers). Science tells us *how* God created and sustains the world, and theology tells us *why*. Keathley notes three primary models that govern the faith and science relationship: the Enemies models, the Strangers model, and the Friends model. The author states that Christianity does not tell one everything about everything, but neither does science tell one everything about everything. Keathley debunks two misunderstandings about the church's interaction with science. First, the Galileo affair did not describe the church against science but rather one faction of the church against another. Second, the Scopes Monkey Trial occurred more as a publicity stunt to discredit Christianity. Keathley also mentions Christians who have been major contributors to science throughout history.

This preliminary overview leads Keathley to his definitions of how God works in the world that serve as a key framework for his argument. Since Aquinas's time, Christians primarily believe that God works either through general providence, God's sustaining of all parts of the world in a moment-by-moment basis, or through special providence, God's working in the world through extraordinary ways (known as miracles). Keathley introduces hypernatural events, in which God employs natural law and phenomena in extraordinary ways, the point at which general providence and special providence cross. The author identifies biblical events, which many consider miracles, and re-defines them as hypernatural events.

Next Keathley discusses science related to the beginning of the universe and development of life, detailing that he believes many of these happenings remain hypernatural. Although many Christians today worry that the Big Bang is contrary to biblical teaching, Keathley shows that the Big Bang provides evidence for the existence of God. The fine tuning of the universe, alongside the intricate craftsmanship of the existing earth, reveals God's care in crafting a place perfect for human life.

Keathley's dive into biology and evolution is perhaps the most challenging section. Some Christians feel that evolution undermines their faith, but Keathley describes evolution in a less threatening way, including the definition that it simply means biological change over time. He discusses young-earth creationism, the idea that God

created the entire universe in six days, less than 10,000 years ago, and points out some surprising models from this approach; then evolutionary creationism, also called theistic evolution, with God as being fully involved in sustaining the universe through the scientific processes of the Big Bang and evolution. The author postulates that, before God started the Big Bang, God planned out the entire progression of the universe through the development of planets, life, and its evolution to human life. Finally, old-earth creationism (a view Keathley admits to holding) claims that the universe was created 13–14 billion years ago, and everything evolved with God's help using hypernatural means as needed.

Keathley ultimately discusses old-earth creationism and evolutionary creationism in tandem commenting that the only real difference between the two is seen when God employs hypernatural activities, versus *when* "special divine action" occurs (p. 119). In evolutionary creationism, all adjustments occur before the Big Bang, and in old-earth creationism the adjustments are made as time passes. From a human point of view, these two ideas can be distinguished, but since God exists outside of time, one can imagine God looking at the consequences of each and adjusting things, making the difference between these two views potentially quite miniscule from God's viewpoint. Keathley makes a point that these two approaches possess many similarities. Perhaps using hypernaturalism to explain God's working in the world helps those Christians who remain uncomfortable with the idea of evolution.

Finally, Keathley emphasizes that the concept of *Sola scriptura* proves vital. He asserts that the Bible tells us everything we need to know about theology's major themes. God created the universe, humankind sinned, and God's common grace "works in tandem with God's general providence to enable damaged, dysfunctional humans to still reflect flashes of the One who created them" (p. 129). However, science remains congruent with Christian faith and provides an important way of learning about God's creation.

As a theologian, Keathley is sometimes lacking in scientific detail. In his discussion of the complexity of the cell, he observes that the more we learn about the cell, the more complex it becomes, and therefore he is not certain we will ever totally understand the workings of the cell. However, as science progresses, it is possible that humans will fully understand cells. Regardless, such discoveries should not affect a Christian's faith; God still created cells, hypernaturally according to Keathley, and God sustains cells through general providence.

In a similar vein, Keathley asserts that "the fossil record does not support gradualism" (p. 113) and this perspective serves as one reason why the author believes that God acted in hypernatural ways to create the many life forms on Earth. However, scientists have discovered transitory species. For example, Francis Collins concludes, "The distinction between macroevolution and microevolution is therefore seen to be rather arbitrary."[1] One cannot rely on a lack of current scientific knowledge to make a place for God. Keathley would agree with this view but could state more strongly in his book that new scientific discoveries do not negate God acting through general providence *and* hypernaturally.

Although *PSCF* readers may be familiar (and perhaps disagree) with the concepts addressed by Keathley, this book nevertheless provides a readable review of the science-faith relationship and may be especially relevant for those needing a nonthreatening introduction to this topic. Christians can understand that the two fields prove to be complementary, telling us different things about our world, and we should accept and study both to understand God's good creation.

Note

[1]Francis Collins, *The Language of God* (Free Press, 2006), 132.

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GLOBAL PERSPECTIVES ON SCIENCE AND CHRISTIANITY by Mike Brownnutt and Keith R. Fox, eds. Langham Global Library, 2024. 296 pages. Paperback; $26.99. ISBN: 9781839739880.

Global Perspectives on Science and Christianity offers a timely and compelling contribution to the science-and-faith discourse—a field long dominated by Western voices and paradigms. The editors, both respected figures in science-religion scholarship, have assembled contributors from six continents, each addressing specific intersections of science and Christianity from within their cultural and institutional settings. This review assesses editorial vision, thematic coherence, methodological insight, and the book's contribution to both academic theology and church praxis.

The volume opens with a foreword by historian David N. Livingstone, who introduces the idea of the "glocal" turn—a conceptual framework that critiques the universalizing tendencies of both science and theology. Instead of treating either domain as monolithic, Livingstone outlines a guiding triad that structures the

volume: the imperative to "localize the global," "transcend boundaries," and distinguish between "fields of battle" and "sites of exchange" (pp. x–xvi). These categories frame the central motif of the collection: although both science and Christianity are global in scope, they are encountered, contested, and embodied in local cultural, political, and ecclesial contexts.

This framing is exemplified in Brownnutt's opening chapter, "Global Perspectives: Less Like Big Macs, More Like Rice," which cleverly contrasts the homogenizing logic of fast-food globalization with the locally adapted diversity of rice dishes. He critiques the "McDonaldization" of science-faith discourse, in which Western frameworks are simply exported worldwide, and proposes instead a model that recognizes both universality and contextual diversity. Through vignettes—such as contrasting attitudes toward vaccines in Nigeria and the UK—Brownnutt illustrates how facets of trust, colonial history, and political power shape public engagement with science and how Christian communities must respond. This chapter serves as both a methodological primer and a theological warning: readers expecting tidy systematic solutions may find the volume's epistemic humility and cultural specificity unsettling—yet therein lies its strength.

Chapter 2, co-authored by Andrew Halestrap, Keith R. Fox, and Paul Ewart, presents a historical survey of the UK-based Christians in Science (CiS) network. It traces the group's development from its roots from 1944 in the Inter-Varsity Fellowship through its growth as a charitable organization engaged in public theology and church partnerships. The chapter serves as an institutional genealogy, showing how science-faith dialogue can be sustained over decades through lay networks, academic publications, and committed theological reflection.

Chapters 3 through 8 offer regionally grounded insights. Brownnutt's second contribution (chap. 3) investigates the epistemic boundaries between science and religion in Asian contexts, particularly through Chinese medicine and Confucian cosmology. Drawing on examples such as acupuncture and the concept of qi, he challenges the rigid Western dichotomy between empirical and metaphysical domains. His analysis invites Christians to consider not only the content of science, but also the culturally embedded structures-of-knowing that shape how science and religion are conceived.

Chapter 4, authored by Brazilian theologian Guilherme de Carvalho, explores how Pentecostal spirituality, political turbulence, and postcolonial identity affect science-faith dynamics in Brazil. He critiques both scientific positivism and anti-scientific populism, proposing the formation of "transversalist communities" (p. 78) as networks that cross institutional and epistemic boundaries to bear Christian witness through justice, integrity, and public dialogue.

Chapter 5, by Kostas Tampakis and Efthymios Nicolaidis, turns to Greece and the Orthodox Church's historical reception of Darwinism. Rather than theological resistance per se, opposition to Darwin's theory is shown to be rooted in political associations with Marxist ideology and foreign cultural pressures. This essay is particularly valuable in illustrating how resistance to scientific ideas can reflect complex interactions between national identity, Westernization, and ecclesial authority.

The African context is addressed in chapter 6 by Bernard Boyo, Samuel M. Karenga, and Peter G. Kirira. They highlight the holistic character of African worldviews in which science, religion, and culture are deeply integrated. The essay reflects on vaccine skepticism, traditional medicine, and the church's role in mediating biomedical trust. The authors align with the volume's broader thesis: decolonizing science-faith discourse requires more than importing Western apologetic frameworks—it demands reimagining categories, relationships, and the communal nature of knowledge.

In chapter 7, Nicola Hoggard Creegan explores the science-religion landscape of New Zealand, a secular and post-Christian society. She notes the absence of mediating institutions (unlike CiS in the UK) and the marginalization of theology in academic spaces, which have led to polarized views of science and faith. Nonetheless, she sees promise in the Māori cultural paradigm, with its integrated ecological and spiritual worldview, as a potential seedbed for renewed public theology.

Chapter 8 takes a narrative turn, offering biographical portraits of Canadian scientists, theologians, and policymakers engaged in creation care. Authors Henry Brouwer, Edward Berkelaar, John Wood, and David Clements use these vignettes to reflect on environmental science as a "site of exchange" where Christian ethics and scientific practice can converge (p. 151). This chapter is particularly compelling for its integration of personal vocation, theological vision, and public advocacy.

The next two chapters shift focus from regional to thematic issues. In chapter 9, Ah Chung Tsoi and Martin Ester examine Christian responses to artificial intelligence (AI) across continents. They engage ethical

concerns related to autonomy, surveillance, and technological determinism, while calling for theological responses that are sensitive to both local political contexts (e.g., China's social credit system) and global developments.

Ruth Bancewicz closes the volume with a practical guide for engaging churches in science-faith dialogue. Drawing on her experience at the Faraday Institute, she offers strategies for supporting Christian scientists in congregations, equipping clergy to speak meaningfully about science, and fostering curiosity within church communities. Her chapter serves as a capstone, reminding readers that theology and science are not only academic pursuits but also pastoral responsibilities.

The value of the book does not lie in the depth of any single essay, nor in exhaustive coverage of its topics, but in how each chapter serves as a case study rooted in particular places and experiences. Together, they form a mosaic that resists the temptation of abstraction in favor of grounded engagement. Thus this volume marks an important shift in the field of science and religion. It moves beyond the well-worn Anglo-American debates over evolution and cosmology to foreground issues such as public health, environmental stewardship, political distrust, and indigenous knowledge. In doing so, it reframes theology, not as a systematic adjudication of "faith versus science," but as a contextual, embodied, and relational witness.

The book is especially commendable for its editorial coherence, despite the diversity of voices. Brownnutt's concept of "glocality" proves remarkably fertile, enabling readers to make thematic connections across culturally disparate chapters. Appendices listing relevant journals and organizations enhance the book's value as a resource for students, researchers, and practitioners alike. As a whole, the volume is instructive in illuminating how science and theology interact in complex social and ecclesial ecosystems, while maintaining an optimistic outlook for integration among church, academy, and laity.

Nevertheless, some limitations are apparent. Although the book covers six continents, South and Southeast Asia receive minimal attention. Future volumes could engage more deeply with gendered, indigenous, and interfaith perspectives—especially in areas such as land ethics, healthcare, and technology. Moreover, the theological engagement is at times underdeveloped. While many contributors are devout Christian scientists, more systematic theological contributions—drawing from liberationist, ecological, Catholic, or Pentecostal traditions—would have added depth. Readers may also find the breadth of topics and methods disorienting. By allowing each context to set its own agenda, the book offers breadth but sometimes sacrifices analytical depth; the essays are often introductory, bordering on superficiality.

Still, these limitations do not diminish the book's value as a rich and thought-provoking resource. *Global Perspectives on Science and Christianity* is an excellent introduction for theologians, scientists, clergy, and students seeking to understand how Christian faith can thoughtfully engage scientific inquiry in a pluralistic world. Its central insight—that both science and Christianity are global and local—pushes the field forward, opening space for conversations that are intellectually rigorous, culturally sensitive, and theologically hopeful. In an age marked by epistemic fragmentation and institutional mistrust, this volume invites the church to listen, learn, and bear witness anew in the many theaters of human knowledge and suffering.

Reviewed by Allan Theobald (MA in biblical literature, MSc in philosophy of science), rector of Emmaus Anglican Church in Montreal, Canada.

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DIVINED EXPLANATIONS: The Theological and Philosophical Context for the Development of the Sciences (1600–2000) by Paul Allen and Flavia Marcacci, eds. Brill, 2024. xiii + 370 pages. Hardcover; $183.00. ISBN: 9789004701885.

This volume asks us to stop narrating the old melodrama of "science versus religion" and to watch, instead, how theories actually get made—inside a lived matrix of metaphysics, theology, institutions, and metaphors. Its case studies are admirably concrete: Descartes's "instituted" truths, Franciscan classrooms that stitched Newton to Aristotle, eighteenth-century quarrels over generation, Bolzano's theologically anchored infinities, thermodynamics disciplined by Duhem, Darwin disentangled from "social Darwinism," Einstein's *logos*-piety, Lemaître's primeval atom as generative hypothesis, Planck's causality and order, Wittgensteinian limits and quantum strangeness, Gödel's modal experiment, and Wheeler's "law without law." The theme is persuasive: images and doctrines are not after-the-fact varnish; they are cognitive engines and guardrails.

The editors begin with Reijer Hooykaas's tart epigraph—"An open mind is not the same as an empty mind"—and then set about filling the mind with history

rather than slogans. The opening chapter proposes that scientific theorizing germinates within a living matrix of metaphysics and theology. Unfortunately, the narrative's first step falters: it repeats the familiar story that the "conflict thesis" emerges with Draper and White. Recent scholarship shows that their polemics are popular crystallizations of much older, intra-Protestant contests later secularized into a science-versus-religion myth. That omission matters because the chapter's broader ambition is to complicate inherited myths.

Set that aside and the argument quickly gathers power. Leaning into the historical turn in philosophy of science, the chapter examines the "conditions of possibility" for science: assumptions about order, intelligibility, and lawlikeness articulated as much in sermons and schools as in laboratories. Its most fruitful pages treat religious metaphors—"the book of nature," providential "laws," even demonological thought experiments—not as pious ornaments but as cognitive engines that open new lines of inquiry before the equations harden.

The conceptual net would benefit from a tighter weave. "Theology" ranges here from doctrinal content to ambient culture to institutional ecology; readers would benefit from a simple taxonomy—doctrinal (creation, providence), metaphoric/analogical ("book," "law"), moral-vocational (intellectual virtues), and institutional (universities, orders). Clarifying that spectrum would help distinguish correlation from causation and guard against mistaking after-the-fact rhetoric for genuine heuristic dependence.

In chapter 2, Simone Guidi offers a deft, tightly argued rereading of Descartes's most unsettling terrain—the 1630 letters on the "creation of the eternal truths" and the evil genius of the *Meditations*. The chapter advances a constructive thesis: Descartes replaces any Platonizing pipeline into the divine intellect with "instituted innatism"—God efficiently establishes the logical truths of things and inscribes adequate ideas in finite minds.

Guidi rejects the familiar polarity in which "Descartes versus late scholastic essentialism" does all the work. He shows that Mersenne is not the possibilist bogey often imagined, and Suárez is not the essentialist foil of legend. Descartes's real opponent is not "scholastic essentialism" but a logicism that treats identity-claims as primitive. The reconstruction of the demon's function—less a cheap epistemic scare than the reductio of atheistic contingency—maps neatly onto the architecture of the *Meditations*.

In chapter 3, Paolo Capitanucci rescues an understudied corner of early-modern Catholic thought: Franciscan engagements with "the new sciences," filtered through eclectic scholastic classrooms and textbook cultures. He shows how textbooks, classrooms, and convent libraries—not just academies—mediated Descartes/Newton to Italian friars, and how an "enlarged Aristotelianism" absorbed, sifted, and contested new physics. This reframes the usual conflict/drama as curricular grafting and incremental habit change.

Luca Tonetti follows with a surprisingly lively thread through early-eighteenth-century debates on generation: how biblical exegesis, medical theorizing, and microscopes got tangled around the phrase "mother of all the living" (Gen. 3:20). The chapter shines when showing where ideas travel: pulpit-adjacent disputations, reference-stuffed textbooks, and encyclopedic medical compendia—not just laboratories and academies.

In chapter 5, Fábio Bertato reconstructs Bolzano's "theological anchoring" of the actual infinite. The core claim is programmatic: the axiom of infinity in mathematics can be viewed—historically, not deductively—as a corollary of a theological theorem. From God's existence and attributes, Bolzano infers that an actually infinite real being exists and that infinitude pervades reality. The chapter elegantly ties Bolzano's grounding theory to a crisp proof that an unconditioned real exists—and then cashes that metaphysic out in a disciplined account of infinite multitudes.

In chapter 6, Stefano Bordoni tracks how the second law of thermodynamics became a cultural lightning rod between 1850 and 1905. Heat death travels through popular novels, British Association for the Advancement of Science lectures, encyclicals, and textbooks. The coda centers on Pierre Duhem and his principled embargo on using physics as apologetics or anti-apologetics. Duhem emerges as the chapter's lodestar: theories are "suitable or unsuitable," not true or false in a metaphysical register, and physics must not be dragooned into settling theology.

In the following chapter, Paul Allen reframes the standard "Darwin versus Christianity" set piece by tracking how nineteenth-century Christian receptions of evolution fixated on creation and scriptural hermeneutics while overlooking Darwin's moral anthropology—his abolitionist, monogenist insistence on human unity. A bracing, usefully revisionist chapter that clears conceptual space to see how Darwin's common descent cohered with—rather than subverted—a Christian grammar

of human equality. Moreover, Allen provides a necessary critique of Terence Keel's recent work, *Divine Variations: How Christian Thought Became Racial Science* (2018), which claims that "racial science" originated in a Christian theological anthropology. Keel's position is utter nonsense, both historically and theologically. He simultaneously claims that Christianity was "replaced" by secular racial science and blames Christianity for causing that same racial science. However, you can't argue that Christian anthropology was sidelined and "translated" into secular terms, then turn around and blame Christian theology for the resulting racism. Allen is to be commended for his cogent takedown of the view.

In chapter 8, Don Howard re-reads Einstein's "cosmic religion" against the grain of the stock Spinoza label. He argues that the deeper grammar is Stoic and Philonian: *logos*—"reason made manifest in nature"—rather than full Spinozist metaphysic. Howard rescues Einstein's theology from the Spinoza shortcut and installs *logos* at the center—reason manifest, personally de-centering yet morally energizing, shaped by deterministic commitments and yet alive to mystery.

In chapter 9, Dominique Lambert reconstructs how Lemaître moved from an expanding, beginningless cosmos (the 1927 Eddington–Lemaître model) to the primeval atom idea of 1931. By separating hypothesis from model, origin from creation, and heuristic from theory, Lambert lets readers see why Lemaître could champion a scientific beginning without this amounting to doing theology by other means. It complicates the neat "Lemaître the apologist" stereotype and offers a persuasive account of how a theologically literate physicist coined a generative concept that helped science learn to speak about "before" space-time.

Moving further afield, in chapter 11, Fausto Fraisopi proposes that twentieth-century revolutions in physics and logic don't deepen a rift between science and religious feeling; they erode the rift. Quantum theory's discontinuity, non-commutation, and uncertainty principle, combined with Wittgenstein's demonstration that language cannot capture its own logical foundations, restrain maximalist rationality and reopen the space where wonder and inquiry meet. When the grand mirror cracks, science doesn't end—its austere limits become the very condition for a chastened, non-triumphal "mystical" outlook.

In chapter 12, Andrea Vestrucci and Christoph Benzmüller frame Kurt Gödel's ontological proof as continuous with his cautious realism rather than treating it as a philosophical curiosity detached from his mathematical work. By placing Gödel's proof within his modest Platonism—and then stress-testing it with automated reasoning and careful variants—they provide a disciplined map of what different axiom choices buy you: consistency at the price of re-defining essence; necessary existence without modal collapse; or, embracing collapse, a bracing necessitarianism.

In the final chapter, Stefano Furlan and Rocco Gaudenzi's portrait of John Archibald Wheeler traces his pivot from "daring conservatism"—Einstein-loyal geometrodynamics—to the confession that black holes had pushed that program to its limits. Wheeler emerges neither as mystic in disguise nor mere methodologist, but as a craftsman of questions who, when classical tools failed him, learned to work at the edge where explanation becomes invitation.

My assessment of *Divined Explanations* is overwhelmingly positive, with two reservations. First, the book sometimes reproaches the "conflict thesis" while quietly borrowing its plot; the genealogy of that thesis is older and more intra-Protestant than a Draper-and-White origin story admits, and ignoring that fact weakens the historiographic footing. Second, several reconciliations come with a theological price tag (especially in post-Darwinian settlements); they deserve greater attention, not a wave through.

The volume's strongest chapters succeed through methodological clarity and sense of place. They show how doctrines, metaphors, and habits shape the imagination of inquiry without sliding from order to a necessary Orderer, from heuristic metaphor to metaphysical conclusion, or from boundary-work to quiet concordism. The result is a capacious frame: not a Kuhn-lite atmosphere but a thicker ecology in which theological imagination has been less an antagonist of science than one of its provocateurs.

Reviewed by James Ungureanu (PhD, Queensland), adjunct professor of Intellectual Foundations at Carthage College, Kenosha, WI.

Social Science

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THE NOT SO OUTRAGEOUS IDEA OF A CHRISTIAN SOCIOLOGY by Joseph A. Scimecca. Routledge, 2023. 153 pages. Paperback; $54.99. ISBN: 9781032360171.

There have been a plethora of books touting the outrageousness of Christian academic endeavors in a secular age, and this book, while building on the theme,

takes the opposite tack. The trend began with Christian historian George Marsden's short *The Outrageous Idea of Christian Scholarship* (1996), a supplement to his magisterial *The Soul of the American University: From Protestant Establishment to Established Nonbelief* (1994), which is now in a 25th anniversary edition with the subtitle *From Protestant to Post-Secular* (2021). Another example is Paul Gould's *The Outrageous Idea of the Missional Professor* (2019). Scimecca inserts a negative into his title ("not so outrageous") because he argues that, not unlike the university itself, the origins of sociology have deeply Christian roots. Thus, the idea of Christian sociology ought *not* to be so outrageous.

However, it *is* outrageous to many in the dominant culture, as Scimecca's book has not been reviewed by the mainstream sociological journals, even though it's published by Routledge academic. Similar works have been published in the past decades advocating for a Christian sociology and they, too, remain marginal to the discipline.[1] While Scimecca does not mention these other books, he does give ample evidence that, historically speaking, Christianity has not been marginal to sociology and, in fact, has been the source of its roots and has inspired some of its best thinkers over the centuries.

One advantage to this book is its brevity, as it is at once shorter and more comprehensive than his more historically specific *Christianity and Sociological Theory: Reclaiming the Promise* (Routledge, 2018). Students will welcome it for other reasons: it has a strong theme that decries the meaninglessness of an age closed to transcendence and left with only materialistic explanations for human life. Scimecca uses the concept of "shadow nihilism" to describe social science without bearings beyond behaviorism, empiricism, quantification, and the machinations of power. He argues that a holistic view of the human being must include the quest for meaning and an understanding of the moral order that sits at the core of social life.

The structure of the book is clearly chronological, summarizing the prehistory of sociology through Aristotle, various clergymen, theologians such as Thomas Aquinas and key Enlightenment philosophers (chap. 2), then describing the secular turn in the classical European sociologists of Comte, Marx, Durkheim and Weber (chap. 3). These are contrasted with the American social gospel thinkers (chap. 4) whose ethical commitments were rejected by the mid-century positivists bent on imitating the natural sciences (chap. 5). The final chapters push back on the atheistic assumptions of positivistic scientism (chap. 6), offer the basics of a Christian understanding of personhood following the works of George Herbert Mead, Charles Horton Cooley, and Christian Smith (chap. 7), and then lay out broader frames for a Christian sociology by using some concepts from the likes of Dorothy Smith, Roy Bhaskar, Margaret Archer, and Peter Berger (chap. 8).

A strength of the book is how it describes the waning of Christian influence and the gradual rise of a narrow scientism supposedly without ethics, values, or concern for social problems. He offers concise summaries of the work of numerous sociologists in his historical survey, including many Christians. Albion Small (1854–1926) is one illustration: the son of a Baptist minister, he went to seminary at Yale and then studied at the University of Berlin until 1881, where he learned about the new discipline of sociology. He received his PhD in history and political economy from Johns Hopkins University and went on to found the Department of Sociology at the University of Chicago. His goal was to "institutionalize sociology ('the science of society') as a mechanism for spreading the Social Gospel" and so "pave the way for the Kingdom of God" (p. 63). Due to Small's efforts, the *American Journal of Sociology* was established, in which he hoped to see theology, morality, and science come together.

Scimecca brings other important Christian sociologists into the foreground, such as Charles Ellwood (1873–1946) at the University of Missouri, men who have either been forgotten by mainstream sociology texts or whitewashed of their Christian commitments. He could have included those beyond American boundaries—Christian social thinkers such as Jacques Ellul and Ivan Illich, for example. More contemporary examples, such as David Lyon in Canada and David Martin and Grace Davie in the UK, would suggest that there are more sociological prophets still left in the discipline.

Another reason the idea of a Christian sociology ought not be so outrageous is that numerous ideologies—feminist, neo-Marxist, and critical race theory, etc.—have all found some legitimation in the academy. They are deeply value-laden and point out the non-neutral and failed objectivity of the positivist paradigm. While this is mentioned in passing, it is curious that, while Scimecca surveys Christian Smith and a variety of his books, he skips over Smith's *The Sacred Project of American Sociology* (Oxford, 2014). Here Smith contends that modern scientism and objectivity is not so much the problem in American sociology as is a new sacred project—the emancipation project of liberal individualism (what some today would call "woke" scholarship).

While Scimecca points to the social location of sociologists and their atheistic milieu, Smith does a more thorough "sociology of sociology" that shows the link between the objective modern pretense and the postmodern political bias. This is similar to what George Marsden does in his anniversary edition of *The Outrageous Idea of Christian Scholarship*, as well as what Christian philosopher Nicholas Wolterstorff argues for in his apologetical work, *Religion in the University* (2019); they describe the postmodern moment as a crack in the secular, opening up a postsecular option that is potentially more friendly to religion.

This seems like a better strategy to me. Scimecca's history is a valuable addition to the conversation about Christian faith and sociology. His description of shadow nihilism and the imperative of a moral core for sociological analysis tied to some notion of transcendence is vital for the common good. What we need is an articulate Christian sociology that is primed for a pluralistic academy, where Muslim, Jew, feminist, and LatCrit theorists can all have a place at the public academic table. This needs to be done not only with the American sociological network in mind, but also with intentional reference to sociologists in the global church and partners beyond.

Note

[1]E.g., David A. Fraser and Anthony Campolo, *Sociology Through the Eyes of Faith* (HarperOne, 1992); Russel Heddendorf and Matthew Vos, *Hidden Threads: A Christian Critique of Sociological Theory* (University Press of America, 2009); David Lyon, *Christians and Sociology* (InterVarsity Press, 1976); and Matthew Vos, *Strangers and Scapegoats: Extending God's Welcome to Those on the Margins* (Baker Academic, 2022).

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Technology

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SUPERBLOOM: How Technologies of Connection Tear Us Apart by Nicholas Carr. W. W. Norton, 2025. 260 pages including notes, references, and index. Hardcover; $29.99. ISBN: 9781324064619.

If you've been paying attention at all over the last ten years, you already know that many modern technological "developments" have either caused or at least coincided with significant social challenges—increases in depression and anxiety, pervasive factionalism, internet addiction, and so on. This book seeks to answer some big questions: How did we get to this point? And, is the rise of social media, smartphones, and AI the cause of these problems?

Nicholas Carr, best-selling author and journalist, addresses these questions by deftly pulling in significant events in technological history, along with current research from sociology and psychology. He unifies it all under the umbrella of a study of "communication."

The author looks at historical mechanisms of communication and their ties to social change. Specifically, he looks at the publishing of magazines and newspapers, creation of the telegraph, the introduction of the telephone, and then the rise of radio and TV. With each technology, authority and control became more concentrated on a select number of companies or individuals. However, promoters of the new technologies repeatedly and consistently saw each technology as a hopeful agent for democratizing the sharing of information and opinions. Then came the Internet and Facebook, which continued the trend with its stated "social mission to create a more perfect society by getting people to communicate more" (p. 15). I think we all know how that turned out.

Why are the creators of new communication technologies so hopeful? Carr claims that they all believe that "if communication is good, more of it must be better" (p. 20). However, what we are seeing is that more-efficient communication mechanisms leave less time for reflection or consultation, demanding immediate and often hasty responses. Chapter 2 explains from a legal perspective how we got where we are. The author usefully gives some background regarding the laws concerning privacy and personal and mass communication, and how the laws did not adapt quickly as communication mechanisms evolved. Especially noteworthy are the Radio Act of 1927 and the creation of the Federal Communications Commission in the 1940s, both of which prohibited broadcasters from promoting causes and candidates. A "fairness doctrine" existed that allowed radio stations to express their own opinions on issues but required them to allot time for other views. These regulations could be implemented because mass communication was still one-to-many via radio and TV.

People had some control of their media consumption. They could change radio stations, subscribe to different newspapers or magazines, or switch TV channels. With the advent of the Internet, communication becomes many-to-many, especially with the creation of social media. Under President Reagan, deregulation removed the requirements of common carriers to take account of the public good. Still, on Facebook you could choose what to see—by choosing and following your friends.

Chapter 3 highlights a significant change with the advent of the Facebook News Feed. What changed is that Facebook started to make decisions about what people see. With the News Feed, "Facebook was a different beast—part broadcaster, part wiretapper, part propagandist" (p. 69). Although Facebook (and YouTube) had to start regulating themselves to filter out hateful and pornographic content, leaders of tech companies still maintained unrestrained optimism.

The next section of the book ("The Tragedy of Communication") explores the consequences of fast, efficient, unregulated communication via email, texting, and social media feeds and near-constant smartphone notifications. The consequences include the creation of textspeak, which includes emojis, thus allowing social media platforms to directly monitor the emotions of its users. Textspeak includes less depth and rigor because of the expected "requirement" to answer quickly. "The language we use shapes not just how we express our thoughts; it shapes the form of our thoughts. It influences how we think as well as how we talk" (p. 100). "People no longer have the luxury of careful reading, methodical evaluation, and contemplative inquiry" (p. 101).

Another consequence is "antipathies." This section answers the question, "Why does social media cause factionalization?" by bringing in a fair amount of sociology and psychology research. Consider this observation: "By turning us all into media personalities, social media has also turned us all into rivals" (p. 109). Sociology and psychology also have shown that oversharing leads to lack of empathy.

The predictions that the democratization of information would lead to an enlightenment of participants to myriad viewpoints is shown to be wrong. Unchecked, unfettered, efficient communication leads to a pollution of the public square with lies and misinformation, and divides people into bitterly opposed camps. Moreover, real facts are boring; sensational extreme opinions are shared wider and faster. Thus, it is easier to be less informed.

The final section of the book ("Everything is Mediated") reads a bit like a doomsday prediction. Here, Carr addresses the question of who we see ourselves as, in this age. People have always identified themselves in relation to their society. Now, with social media and social distancing, we do it even more by managing our online profiles and observing how others react. "We're all masters of 'the arts of impression management'" (p. 160). "The social and the real have parted ways" (p. 162). And, "in 2012, half of American teenagers said they'd rather socialize with friends through screens than in person" (p. 170). The result? An epidemic of loneliness, anxiety, and depression, especially among, but not limited to, teenagers.

Today, machines create content in the form of chatbots, therapists, and virtual friends. People are not just gullible, believing false "news," but are becoming cynical about all they sense. "Authoritarian regimes and leaders with authoritarian tendencies benefit when objective truths lose their power" (p. 198).

The author wonders if we will soon see people living in a completely virtual world made possible by using VR/AR goggles. He argues that people are already living in a virtual world by constantly staring at their smartphones. Why do we do this? Perhaps to get back some control of how we are perceived. But also, unwillingly, we are victims of brain-manipulating algorithms. And, even knowing this, we choose it. "We're being given what we want, in quantities so generous we can't resist gorging ourselves" (p. 217).

Is reform possible? Perhaps. The European Union has attempted to do so by regulating tech. But their efforts haven't really worked. Groups of people want to add "friction" to the system—to slow it down or regulate it—by adding desirable inefficiencies. Can we take back control and free ourselves from technological tyranny? It is hard to change the ways of the oligarchy who have become famously wealthy by providing the technology. "But maybe it's not too late to change ourselves" (p. 228). We need to be rooted in the real world. We need to sense and feel actual things. Otherwise, we'll be trapped in hyperreality, which is all surface and no depth. "You can only get beyond the material by going through the material, by suffering and surmounting its frictions. And that becomes harder and harder to accomplish or even to imagine the more that life is mediated by mechanisms of communication" (p. 231). "Maybe salvation, if that's not too strong a word, lies in personal, willful acts of excommunication" (p. 232).

Although Nicholas Carr does not claim (publicly) to be a Christian, you will notice significant Christian themes in his writing and especially his limited hope for remediation. Undoing the harm of social media includes Christian themes such as incarnation—*being* in the real world—and grounding your identity not in others' opinions but, for Christians, as a beloved child of God.

Perhaps the state of our world offers new opportunities for Christians to share God's love by help-

ing people throw off the chains of the tyranny of over-communication.

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Theology

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GENDER AS LOVE: A Theological Account of Human Identity, Embodied Desire, and Our Social Worlds by Fellipe M. do Vale. Baker Academic, 2023. 272 pages. Hardcover; $69.99. ISBN: 9781540967022. Paperback; $35.00. ISBN: 9781540966971. Ebook; $34.99. ISBN: 9781493443925.

Theoretical approaches to gender, and consequently theologies of gender, have historically divided into two opposing camps: the definition of gender as a social construct, and the definition of gender as a biological essence. In *Gender as Love*, Fellipe do Vale, theology professor at Trinity Evangelical Divinity School, connects the two approaches to argue that gender is an essence (though not necessarily biological), which is "concerned with selves or identity and with the way selves organize social goods pertaining to their sexed bodies" (p. 23). That is, do Vale defines gender as an identity which involves biologically sexed bodies and the meaning given to sexed bodies in specific social contexts. Within the divine economy of salvation, he argues that a Christian theology of gender must center on love. The social goods we love as gendered individuals define who we are as gendered individuals. For do Vale, gender is love.

He begins in chapter 1 by developing John Webster's "theological theology" with its focus on God and the divine economy as a framework for his own approach to gender. Locating gender in the divine economy allows do Vale to distinguish between what qualities are essential or innate to being a gendered human, and what qualities are limited to a particular stage of the divine economy (even if those qualities are universally experienced).

In chapter 2, do Vale thoroughly reviews the history of theories of gender as a social construct. He critiques these theories for their rejection of any stability or consistency in gender categories across time and space. If there is no consistent understanding of what "women" are, then the category "women" has no moral value. That is, if it is impossible to identify "women" in particular historical or cultural contexts as the same kind of being as "women" in other particular historical or cultural contexts, then it is also impossible to make claims concerning gender justice and injustice. According to do Vale, although social construct theories of gender are guided by the desire for gender justice, they functionally lead to injustice. They are ultimately inadequate for the work of defining gender.

Chapter 3 begins with a too-brief analysis of biological essentialism. Given the importance of definitions of gender that prioritize the body to the exclusion of social and cultural contexts within contemporary politics and church practice, it would be helpful to have a more robust discussion and critique here. Do Vale then charts his own middle path between essentialist and social construct theories. Drawing on insights from philosophers Charlotte Witt and Mari Mikkola, he argues that gender is an essence, though because of our location in the divine economy, we cannot fully define it. However, defining gender as an essence makes categorization as (for instance) "woman" or "man" possible across time and space, which in turn makes gender justice possible.

Finally, do Vale develops his definition of gender as an identity, which involves biologically sexed bodies given social meaning through the organization of gendered social goods. Social goods vary throughout history and across cultures, so the work of theology is descriptive: to discern and morally evaluate (based on justice and the gospel) the gendered social goods in a particular time and space. "Gender is tied to our created, sexed embodiment, but discipleship consists in knowing how to make use of and attach ourselves to cultural goods in ways consistent with the gospel" (p. 110).

The second half of the book develops do Vale's definition of gender as love, beginning in chapters 4 and 5 with Augustine's theology of love. According to Augustine, the objects of our love shape who we are. Do Vale extends this connection of love with identity to gender. If gender identity is defined as the organization of social goods around sexed bodies, and identities are formed by love, then what we love as gendered beings shapes and defines our gender identities.

> [T]here are many things we love in virtue of our sexed bodies. Doing so grants these beloved objects a social meaning and to us a social role, and this is our gender. More than that, we identify with these beloved goods, for they make us who we are and shape our narratives. Because our chief love is to God, moreover, Christians always have an obligation to evaluate these gendered goods in accord with the moral norms of all properly ordered love. (p. 144)

Do Vale's theory of gender resembles theologian Sarah Coakley's work on gender as desire. In his review of Coakley, do Vale notes the ambiguity of her definition of

"desire" (particularly with respect to sexual desire) and the underdeveloped conception of Trinitarian "threeness" as a means of moving beyond a gender binary. Do Vale consequently argues that Augustinian love offers a more secure center for gender.

Chapters 6 and 7 situate do Vale's conception of gender in the divine economy. First, gender is a good within the goodness of creation. Using John Walton's interpretation of the biblical creation story, do Vale identifies gender as a way for human beings to function well in God's creation—to "organize and appropriate social goods as a means to manifest [the sexed body] socially" (p. 190). In this section, do Vale addresses the specific question of intersex persons and those with disorders of sexual development (DSD), arguing that such conditions are one way among many that sexed bodies might misfunction. He encourages epistemic restraint to allow for ambiguity in an individual's sexed body, while seeking ways for all people to flourish in their sexed bodies.

Do Vale specifically addresses the experience of shame shared by many intersex/DSD individuals as a limitation on human flourishing. The experience of shame is also important to the consequences of sin for gender identity. As a second act in the divine economy, human sin distorts creation and thus gender, making gender a source of injustice. Do Vale illustrates gendered sin with sexual assault against women, including within Christian communities. Redemption is then the story of grace enabling social transformation, including healing for the victims of gendered sin. The discussion of gendered sin, shame, and redemption would benefit from a clearer distinction between "sinner" and "sinned against." Moreover, while do Vale carefully distinguishes between intersex/DSD conditions and gendered sin, the common element of shame across these discussions creates a problematic ambiguity.

Finally, do Vale explores gender within eschatological consummation. Here, he focuses on Galatians 3:28, often interpreted as the ultimate erasure of gender categories. Following Augustine, do Vale instead argues that "no longer male and female" represents the perfection of gender. In this reading, gendered categories remain in the eschaton, but without the negative evaluations or exclusionary practices associated with gendered categories under the distortion of sin. The calling of the church is to work toward eschatological justice with respect to gender while we await the final consummation. "In the new heaven and earth, mysterious as they remain, we will be women and men who know perfect justice in accordance with our worth … As we imagine a just world, we conform our lives now in anticipation" (p. 234).

Do Vale's expert dialogue with key scholars makes this book a valuable introduction to gender studies as a theological discipline. The book makes an important contribution toward integrating essentialist and social constructionist approaches to gender, providing a potentially fruitful starting point for theologies of gender. His focus on justice as a core guiding principle and evaluative tool for definitions of gender keeps the humanity of gendered individuals centered amid his detailed, wide-ranging theological discussions. The book would be particularly useful for advanced undergraduates and graduate students in theology and gender studies.

There are several points at which the discussion could be more fully developed. Do Vale's "theological theology" keeps the Bible centered through his theological and theoretical analyses. His recognition that the gendering of social goods, and thus historically particular gender identities, is contextual to particular times, spaces, and cultures, is important to his analysis of, for instance, 1 Corinthians 11:2–16. But as a biblical scholar, I wanted more, especially in the discussion of Galatians 3:28 and the eschatological future of gender. Do Vale sets aside other texts, including Matthew 22:23–30, as concerned with marriage rather than gender. But within first-century context (Jewish and Greco-Roman), marriage was a central social good in definitions of gender. The prioritization of "eunuchs" and the choice not to marry is, consequently, gendered. Or, rather, un-gendered, making this text essential for a discussion of gender and the eschaton.

Do Vale demonstrates why gender matters for being human in human society, and his development of Augustinian love as a center for gender identity is productive in this respect. Part of being human is inhabiting biologically sexed bodies. How we live in and use our bodies in interactions with each other matters—socially, culturally, and theologically. Do Vale's emphasis on justice is important. But I am unconvinced by his argument that gender identity ultimately matters for Christian identity. In Galatians, Christian identity is defined not by social markers (Jew and Greek, enslaved and free, male and female) but by being "one in Christ" (Gal. 3:28). The entry point into this corporate identity—baptism (Gal. 3:27)—means getting "dressed" in Christ, wearing Christ-like clothing (one of do Vale's gendered social goods, but here gendered distinctions are displaced by Christ). To return to Matthew 22:23–30, being a "eunuch" for God dissociates Christian identity from

one of the primary gendered social goods of the time. Together, these two texts offer an entry into a potentially rich discussion of the ultimate, eschatological significance of gender.

This leads to a final lingering question: What do the definition of gender as love and the emphasis on justice as an evaluative tool contribute to our contemporary conversations around transgender identities? Do Vale's insistence on the significance of sexed bodies and the distinction of the essence of gender from biology offer suggestive starting points, but he does not thoroughly explore this complex, complicated issue. His fullest statement comes in a footnote claiming the compatibility of his definition of gender with "full trans* affirmation" (using trans* to refer to a range of gender identities):

> To affirm trans* identities using this understanding of gender, one would simply have to add that what is at issue is perceived biological traits, that an individual need only be perceived as having a certain sexed body to be truly of a certain gender … All this is to say that, in the end, my view does not decide the matter one way or another. (p. 108)

In this respect, as in many others, do Vale's *Gender as Love* offers a fresh, theologically rich beginning for conversations in the church and academy.

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GENESIS 1–11: A New Translation with Introduction and Commentary by Ronald Hendel. Yale University Press, 2024. 466 pages. Hardcover; $85.00. ISBN: 9780300149739.

The first eleven chapters of Genesis provide a set of important texts in faith-and-science discussions. This well-informed, in-depth treatment of Genesis 1–11 enhances not only one's understanding of the original Hebrew, but also such things as the text's literary features and the cultural milieu out of which it arose. Add to this the author's forays into Jewish and Christian interpretation and there is something here for every keen interpreter of Genesis 1–11. It culminates more than forty years of the author's scholarly interest in Genesis and is helpfully preceded by his critical edition of the text of Genesis 1–11 (Oxford University Press, 1998).

Ronald Hendel, professor emeritus of Hebrew Bible and Jewish Studies at UC Berkeley, describes his approach as "a literary philology, which combines detailed historical-critical scholarship with attention to the nuances of literary conventions, style, and resonance" (p. xi). This wide-ranging approach offers further evidence that gone are the days of strictly historical-critical mainline commentaries, dominated as they were by speculative, quasi-scientific reconstructions of a text's prehistory that were of little interest or relevance to readers of the Bible as scripture for the church.

The book is structured as follows. Three sections precede the main body of the commentary: an introduction, a bibliography, and a fresh translation of the Hebrew text that signals in varied type his understanding of the sources and redactional elements. The body of the commentary consists of notes and comments on each pericope of Genesis 1–11. Each section begins by including the relevant portion of the translation offered earlier. Then come "Textual (i.e., text-critical) Notes," more general "Notes" that tease out nuances and, finally, synthetic "Comments" that include literary and structural features as well as parallel texts (Ancient Near Eastern, OT, NT, Jewish, and occasionally Christian).

The last time we saw an in-depth commentary on the same corpus was in the late eighties and early nineties by Gordon Wenham and Victor Hamilton. Not only is Hendel's commentary more up to date, but its consideration of Hebrew and cognate languages is at least as extensive. Hendel's comparative analyses (Egyptian, Mesopotamian, Canaanite) also include much that is different. These are extraordinarily rich, bringing both clarity and vitality to the text. To be sure, evangelicals will still find Wenham and Hamilton more helpful on topics of particular interest to them than this work. Nevertheless, Hendel's deep engagement with philology, context, literary structure, et cetera, paves a good way toward rich theological engagement.

The commentary has a few shortcomings. First, the print size is ridiculously small. Second, the introduction reads as if to promise more to follow than actually appears. Thus, tantalizing introductory subsections, such as "Between the Figural and the Real"—which deliciously contrast the historical-literal stance of Luther with the more nuanced stance of Calvin that anticipated understanding Genesis 1 as accommodation to ancient cosmology—whet the reader's appetite for more than what follows. Third, although Hendel's separate discussion of the priestly and Yahwist sources is helpful for distinguishing the distinctive character perceived by historical critics in the accounts of creation and the flood, I would have liked to have seen more emphasis on the meaning of the text in its final canonical form. The reader is left thinking in terms of doublets—for example, two creation stories or, even more oddly, two

flood stories—rather than *the unified single text* of present form. Finally, although otherwise comprehensive, Hendel fails to engage with the work of several evangelical scholars, including Tremper Longman, Bruce Waltke, and John Walton.

These criticisms take little away from what is otherwise a remarkably good commentary. Hendel consistently demonstrates sensibility, judiciousness, and balance in his interpretation of texts. In what follows I hope to whet *PSCF* readers' appetites by sampling portions that are likely of particular interest.

Hendel's introductory discussion of the linguistic history of biblical Hebrew is a welcome polemic against a group of scholars who have recently sought to undermine the validity of using linguistic and grammatical criteria for dating the time in which a given passage was written.[1] The dating suggested by Hendel—ranging from the ninth century BC to the early fifth—is thus much older than that proposed by his dubious methodological naysayers.

Hendel translates Genesis 1:1–2 as "In the beginning, when God created heaven and earth—the earth was desolate chaos, and darkness was over the face of the ocean, and a wind of God was soaring over the face of the water—…" He thus regards the noun *re'shit* ("beginning [of]") as a construct noun followed by a verbal clause that is best rendered temporally. This issue is, of course, important to Christian theology because creation *ex nihilo* is not implied if one follows Hendel's translation, which entails verse 2 being a circumstantial clause that describes pre-existing chaotic material from which God created an ordered earth and heaven. Note that, although God is the only known subject of the verb *bara'* ("create"), creation out of nothing is not necessarily inherent to the meaning of this word. Yet, because the doctrine of creation *ex nihilo* is upheld elsewhere in the OT (e.g., Isaiah 44:14), I am inclined to concur with Hendel, whose translation of Genesis 1:1–3 aligns best with the Hebrew. (After all, *re'shit* by no means necessarily denotes a beginning that is absolute, but it may be an initial point in time, which leaves room to affirm God's earlier creation of the primordial chaos, to which no reference is here made.)

Hendel interprets the word "day" in Genesis 1 literally, beginning at dusk. Interestingly, he traces the roots of the nineteenth-century "day-age" theory not only back to Psalm 90:4 (according to which a thousand years is as a day in God's sight), but also to Jubilees 4:30, which drew on this Psalm to reconcile another seeming contradiction in timing, that between Adam's death at the age of 930 (Gen. 5:5) and Genesis 2:17, which states that Adam would die on the "day" he ate the forbidden fruit. (On this point, Hendel sympathizes with the idea that God was being merciful by postponing the time of death.) Further, on Hendel's literal one-day stance, he makes no attempt to reconcile the quick creation this implies with contemporary scientific theories that suggest a much longer process: Hendel is content to interpret Genesis 1 and 2 primarily within the context of Ancient Near Eastern mythological texts, which exhibit strong similarities (as well as key differences) with Genesis. In other words, Hendel's discussion of accommodative and figural interpretations of Genesis 1 reflects a deference to the growing interest within biblical studies in the biblical text's history of interpretation. This, in turn, reflects the idea that the interpretation and meaning of a text is affected by the context and circumstances in which it is being read, as in the case of current interest in reconciling Genesis 1–11 with modern-day scientific views.

Regarding Genesis 6:1–4, Hendel sees the "sons of God" (v. 2) as members of the divine council, akin to the host of heaven, whose behavior is abnormal here for being sexually inclined and not subservient to Yahweh. Thus, Hendel rejects the view that the "sons of God" refer to the descendants of Seth.

The reader should not infer that the commentary is an easy read from which interpretive gems can readily be picked—though well written, the commentary is as dense and technical as they come. Yet little is superfluous. Hendel limits his data to what matters: understanding Genesis as originally intended and understood (albeit with attention paid to important moments in the history of interpretation).

Hendel is to be commended for writing an exhaustive commentary on Genesis 1–11; it explains much, reflects sound judgment based on the most recent scholarship, and sheds much light. It is bound to be among the first commentaries to be pulled off the shelf for contemporary insight into the original meaning of the text and its cultural background.

Note

[1]See R. Hendel and J. Joosten, *How Old Is the Hebrew Bible? A Linguistic, Textual, and Historical Study* (Yale University Press, 2018).

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