



## APOLOGETICS & ORIGINS

**NATURE'S CASE FOR GOD: A Brief Biblical Argument** by John M. Frame. Bellingham, WA: Lexham Press, 2018. 124 pages. Paperback; \$11.99. ISBN: 9781683591320.

John Frame is Emeritus Professor of Systematic Theology and Philosophy at Reformed Theological Seminary in Orlando, Florida. He has written the Theology of Lordship series, which includes *The Doctrine of the Knowledge of God* (1987), *The Doctrine of God* (2002), *The Doctrine of the Christian Life* (2008), *The Doctrine of the Word of God* (2010); *Systematic Theology: An Introduction to Christian Belief* (2013); *A History of Western Philosophy and Theology* (2015); and many other books. Frame was a professor at Westminster Theological Seminary and Westminster Seminary California until 2002 when he moved to Reformed Theological Seminary. Frame is in the conservative Reformed tradition and the presuppositional apologetics school of Cornelius Van Til. He is considered to be one of the leading interpreters of Van Til.

This little book caught my eye because, surprisingly, Frame seems to be making a case for a form of natural theology. Natural theology is the investigation of God and his attributes and actions apart from the Bible, that is, what is seen in the natural world and in human nature, experience, and reason. Those in the presuppositionalist apologetics camp have resisted natural theology because of *sola scriptura*. They argue that what we believe about God and his works comes from the Bible and that leaving out the Bible in this discussion dooms it to failure. In addition, the Bible clearly speaks about God and his actions. Why do we need a reflection about God divorced from his revelation to us in scripture and in Jesus Christ? Frame discusses this problem and his response in the Preface (pp. 1–13).

There is a long tradition of philosophical (rather than biblical) arguments for the existence of God. Arguments from ancient Greece, such as the cosmological argument or the teleological argument for the existence of God, are arguments from nature. C. S. Lewis in *Mere Christianity* uses the nearly universal sense of right and wrong in human beings to argue for the existence of God. Not only the existence of God but some attributes of God—his wisdom, his goodness, and his purposefulness—are defended by these arguments from nature. Presuppositionalists generally regard these arguments as wrong-headed and useless, even if they are not necessarily wrong. Human beings, as creatures, are not in a position to judge whether or not the Creator exists. Our hesitation to acknowledge God's existence based on what is seen in nature is due to a willful suppres-

sion of the truth. Furthermore, one of the chief places in scripture where a natural theology argument is used (Romans 1 and 2) concludes that even though the evidence is "clearly seen" in things created and in the human conscience, these evidences leave humankind without excuse. They are unsuccessful because of the spiritual deadness of the human heart. "There is no one righteous ... there is no one who seeks God" (Rom. 3:10–11) is the conclusion of it all.

Frame opens *Nature's Case for God* with the reminder, however, that "Scripture itself tells us that God is revealed everywhere and that human beings are therefore under obligation, not only to hear God's word in Scripture, but to obey his revelation in all creation" (p. 4). He appeals to texts such as Psalm 19:1, "the heavens declare the glory of God," and Romans 1:20, "God's invisible qualities—his eternal power and divine nature—have been clearly seen, being understood from what has been made." Frame calls his project in this book a "biblical natural theology," arguments about God from nature based on a biblical worldview. He says, "We should not look at nature autonomously, on the basis of our own reasoning power, but on the basis of God's revelation in Scripture" (p. 17). We look to nature when the Bible invites us to.

This biblical natural theology does not lead to salvation. It is insufficient because it does not include the message of salvation in Christ. But it does prepare the way for the hearing and believing of the Gospel as it is preached. Frame calls it a "prolegomenon" (p. 7). Believers, because their eyes have been opened to the truth of God as Creator, now see evidence for God everywhere. Frame writes, "The natural world, the creation, is a wonderful testimony to believers that God is real and that everything displays his glory" (p. 11).

*Nature's Case for God* is divided into two parts: The Witness of the Created World and The Witness of Human Nature. Frame does note that human nature is part of the created world (p. 11). Part One has five chapters: "The Greatness," "The Oneness," "The Wisdom," "The Goodness," and "The Presence." These are short chapters, just a few pages each, that highlight the particular attribute of God along with scripture passages that invite us to look to nature to see that attribute. Each chapter is followed by a list of questions for thought or discussion. I found this section to be a delightful and profound meditation on God.

While each chapter is excellent in showing us in nature the particular attribute of God, I will illustrate Frame's method with the chapter on "The Presence," which is also a transition to the second part. Frame cites Psalm 139:7, "Where can I go from your spirit?"; Acts 17:28, "in him we live and move and have our being"; and ultimately,

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the idea of the image of God in humans (Gen. 1:26–27) to point out that God is near. God’s presence is known even by unbelievers, because of creation and especially their humanity. Dominion over the rest of creation as expressed in Genesis 1 and Psalm 8 is the main way humans express the image of God. Interestingly, while some lament humankind’s impact on nature (especially the negative effects of pollution and the human-caused extinction of other species), Frame points to this human trait as a revelation of the presence of God:

Humanity has become the dominant species on the earth, ruling in every earthly environment ... we also know [God] by knowing ourselves. He is closer to us than anyone or anything else. Every part of our mind and body reveals him ... What amazing creatures we are! How much more amazing must be the one who put us together! That one is as close to us as the mirror in which we look each day ... And from his presence we know he exists. (pp. 62–63)

After reminding us about the distortion of this image in myriad ways, Frame points us to Jesus Christ, the perfect, uncorrupted image (p. 67).

Part Two speaks of the human conscience: “The Seared Conscience,” “The Accusing Conscience,” “The Awakened Conscience,” and “The Good Conscience.” Frame examines the conscience at various stages of the human spiritual condition.

The seared conscience is the mind of the bully, the criminal, and the tyrant. People with seared consciences do not seem to be even minimally affected by moral considerations. They wish to inflict their power on others, without any limitations of morality. (p. 79)

Yet, even the seared conscience functions. It may be ignored, but it cannot be completely forgotten (Rom. 1:32). Frame writes,

When I am tempted to betray a friend, I know it is wrong. This is something I must not do ... Betrayal is not merely bad for my friend, or for me, or for the species; it is objectively bad ... only God has the authority to tell me what is objectively wrong. We may do what we can to silence the voice of conscience, even to sear it. But it will not stop speaking to us, accusing us. Within us, it makes its case for God. (p. 82)

The accusing conscience not only accuses ourselves (Rom. 2:14–15), but it accuses and excuses others. The morality of accusers is not always on target (although it often is), but the notion that everyone thinks there is a right and wrong is an evidence for God.

The awakened and the good conscience are the result of the new heart that God gives us. Our awareness of sin leads us to repentance and faith in Christ. Neither is perfect. Frame writes,

Of course, the newly awakened conscience is not perfect ... It needs to be taught and trained. (p. 94)

To say I have a good conscience is not to claim sinless perfection ... however ... the Christian, whose conscience is awakened and directed by the Spirit, is able to behave faithfully ... (p. 101)

As scientists, readers of this journal are interested in the study of creation (nature). As people of faith, they believe that God created and sustains that creation. *Nature’s Case for God* articulates a biblical way of thinking about the relationship between the two.

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**FRIEND OF SCIENCE, FRIEND OF FAITH: Listening to God in His Works and Word** by Gregg Davidson. Grand Rapids, MI: Kregel Academic, 2019. 297 pages with bibliography and index. Paperback; \$25.00. ISBN: 9780825445415.

Offering a direct and powerful rebuttal to perspectives that lead to conflict between faith and science, especially those views of young-earth creationism and intelligent design (ID), Gregg Davidson argues, in considerable detail, that scripture and the scientific views on topics such as the age of the earth and evolution are in harmony. This book is an outgrowth of years of intensive study and dialogue with advocates of many diverse views of the relationship between science and scripture. He clearly articulates the underlying principles of these views and provides ample information to support his position that science and Christian faith are in harmony.

Davidson is chair of the Department of Geology and Geological Engineering at the University of Mississippi, specializing in hydrology and geochemistry. He earned a BS in geology at Wheaton College and a PhD in geology at the University of Arizona. In addition to a few books of fiction, Davidson has authored two other books on science and faith. These are *The Grand Canyon, Monument to an Ancient Earth* (coauthored with Carol Hill, Wayne Ranney, and Tim Helble) and *When Faith and Science Collide: A Biblical Approach to Evaluating Evolution, Creationism, Intelligent Design, and the Age of the Earth*, published in 2009, which is a precursor to this work. Davidson is a Fellow of the American Scientific Affiliation.

*Friend of Science: Friend of Faith* comprises fourteen chapters organized in five parts. In the first part, Davidson sets forth the manner in which he recommends issues of apparent tension between science and the Bible be addressed. He suggests that three questions be considered:

1. Does the infallibility of scripture rest on a literal interpretation of the verses in question?

2. Does the science conflict with the intended message of scripture?
3. Is the science credible? (p. 23)

Davidson illustrates this approach with the historical example of Galileo's advocacy of heliocentrism. Here the book, in an apparent attempt to keep the text simple and readable to a broad audience, oversimplifies the history. Galileo's conflict with the church leaders is presented as a pure science-faith tension, ignoring the more complex history of political and personality issues that also played a key role. Nevertheless, he clearly shows how to analyze issues of science and the Bible.

In the next three parts, he shows examples of how to apply these three questions. In Part 2 (chaps. 3–5), he focuses on the first question. In the case of the age of the earth, he argues that the literal interpretation of Genesis, generally used to contend for a young earth, fails on the basis of self-inconsistency. Rather than countering with scientific facts or alternative hermeneutics, he seeks to show young-earth creationist advocates that their position is not internally consistent. One of his many examples is the sequence of the creation of humans and animals. Genesis 1:25–26 states that the animals were created first, whereas Genesis 2:18–19 asserts that they were created after humans to seek a suitable helper. Another example discussed in chapter 4 is conflict between genealogies, showing that the message of the ancestry is more important than the literal interpretation. Chapter 3 argues for a form of accommodation in which the biblical text is considered to be written from the perspective of the scientific views of that era. The Holy Spirit accommodated the incomplete and often erroneous views of nature rather than correcting them with views that would be in accord with modern science. Chapter 5 defends a framework interpretation of the days of creation. In this view, there is a conceptual structure of the days of creation rather than a chronological sequence. Each chapter addresses the most common objections raised to these views.

The question of conflict is met head on in Part 3. The primary thrust is to claim that there is no conflict because there is concordance between the Bible and science as understood in the ancient Near East societies. In this approach, conflicts between the Bible and science are resolved by understanding the view of nature in that culture and finding concordance there, rather than with modern science. For example, Davidson shows how references to the path of the sun and to the firmament separating the waters correspond to the three-tier cosmology accepted in the ancient Near East. In doing so, he touches on all the usual arguments of the time and sequence of creation and the Flood in the time of Noah. In this way, conflict with modern science is excused

rather than resolved. Harmony is not to be found with modern science but with ancient science.

At other times, Davidson does claim that the Bible is in concordance with *modern* science. Perhaps the most telling is his effort to avoid conflict between modern genetic analysis and a historical Adam and Eve. He cites the recent work by Swamidass<sup>1</sup> and others as indicating that genetic studies do not definitively rule out the possibility of a universal ancestral couple of some kind (pp. 99–100). However, Davidson fails to note that these potential scenarios depend on a variety of assumptions: that Adam and Eve possessed an extremely unlikely and contrived DNA sequence, and/or had thousands of contemporary peers, and/or lived hundreds of thousands of years ago, long before the origin of *Homo sapiens sapiens*. For this reviewer, these assumptions strain concordant views beyond plausibility.

The longest section of the book by far is Part 4 in which Davidson presents a powerful defense of modern science. Aiming directly at the core issues of the age of the universe and the earth, the origin of life, evolution, and the origin of humans, he contends that current scientific understanding is credible and continues to grow. Davidson unabashedly maps out possible reasons why abiogenesis cannot be ruled out.

Finally, Part 5 takes direct aim at young-earth creationism, young-earth evolutionism, and intelligent design. He articulates the primary arguments for and against these views and soundly rejects them all.

Two groups of people would benefit the most from this book. On the one hand, there are those who adhere to a young-earth or ID position, but they have growing concerns and questions and are seeking alternative perspectives. This book provides extraordinary detail on virtually every argument on those issues. On the other hand, those who are already convinced of Davidson's position would benefit by gathering clarity on data and arguments that are most useful in discussions with young-earth and ID advocates. Though somewhat pedantic in spots where every possible contention is covered, the book is easy to understand by anyone with a basic interest in science. While the book contains few if any substantive new ideas, it presents a detailed and comprehensive account of ways of harmonizing science and scripture.

In the experience of this reviewer, in previous decades it was hard to find scientific experts who would take the time to systematically address the full spectrum of ideas raised in young-earth and ID literature. It is noteworthy that Davidson and others are now coming forward with clear and comprehensive coverage of the issues. This work is a valuable addition to that collection.



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## Note

<sup>1</sup>S. Joshua Swamidass, *The Genealogical Adam and Eve: The Surprising Science of Universal Ancestry* (Downers Grove, IL: IVP Academic, 2019).

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## ENVIRONMENT

**BEYOND STEWARDSHIP: New Approaches to Creation Care** by David Paul Warners and Matthew Kuperus Heun, eds. Grand Rapids, MI: Calvin College Press, 2019. 252 pages. Paperback; \$17.99. ISBN: 9781937555382.

*Reforming the way we think about non-human creation  
It's not natural resources, it's kin*

We are more than the top of the creation status chain in charge of carefully using natural resources. We are brothers and sisters of animals and plants, made of the same atoms as the walls of the Grand Canyon and the pollen in a pine cone. Recognizing our role in creation leads us to reconcile with God and with the nonhuman parts of creation, a newly released book declares. *Beyond Stewardship: New Approaches to Creation Care*, edited by David Paul Warners and Matthew Kuperus Heun, takes the Christian stewardship ethic to another dimension. Written by authors connected to Calvin University and supported by the Calvin Center for Christian Scholarship, the book is designed to help concerned Christians reframe care of the nonhuman creation in new ways.

People familiar with the Christian environmental stewardship (CES) model may recognize the concept of humans wisely using and protecting nature as a representative of God, and the use of the Hebrew words *abad* (work, till, cultivate) and *shamar* (watch over, keep) in creation care (Gen. 2:15).<sup>1</sup> A 1980 book supported by the Calvin Center for Christian Scholarship, *Earthkeeping: Christian Stewardship of Natural Resources*,<sup>2</sup> was an important catalyst in the acceptance of stewardship responsibilities by US Christians.

*Beyond Stewardship* contends that “stewardship” suggests a person who is separated from what they oversee, making decisions in the absence of an owner, and paying attention only to economically valuable resources. Instead, the authors of *Beyond Stewardship* argue that humans are a part of the creation, in relationship with God and with the rest of creation, and, by our fundamental “creatureliness,” need to expand our sense of moral responsibility to include all of nonhuman creation. Consequently, they define other vocabulary for what is often called “creation care,” terms such

as “earthkeeping,” “place-keeping,” “kinship,” and “reconciliation.”

The book’s fourteen chapters are separated into three parts, beginning with a chapter by Heun and ending with a chapter by Warners. Each chapter begins with a compelling illustration and then pivots in a new direction, asking the reader to change to a new way of looking at a problem. A foreword by Bill McKibben, along with a preface and an introduction jointly written by both editors, sets the stage for the ideas of the book. An afterword by three authors of the original *Earthkeeping* book, an illustrated story by Calvin students, and appendices containing resources and discussion questions complete the book.

The two chapters in Part 1, Rethinking: Expanding Awareness, echo the introduction and spell out more clearly the problems of the CES model. These thoughts resonated with concerns I have had: the CES model does not protect parts of creation with low economic value, humanity is still too central to the paradigm, and we could “steward resources” without solving root problems that cause ecosystem degradation. Even so, we are told that it is important to use the vocabulary that is understood by our audience, and the best term for some is “stewardship.”

In the five chapters of Part 2, Reimagining: How Things Could Be, the book becomes a wild ride. From concepts of kinship, creatureliness, and earthiness to the idea of each of us actually being a whole symbiotic community of microbes and human body combined, the authors of this section push the reader to recognize our physicality and mortality. Humans were tasked with naming the other creatures; this understanding gives us a special relationship to them. Finitude, sin, and mutual dependence mark our relations to nonhuman parts of creation. In our individualism and desire to be like gods, we have forgotten our interdependence with the rest of the creation. The sin of pride caused the fall of humanity and warped our relationship with our fellow creatures and with the nonliving material world around us. Our grief, lament, and repentance of sin lead the way to a reconciled relationship with the rest of creation as a part of Christ’s sacrificial redemption of the whole world. That work of radical love brings the kingdom of God to Earth. Indeed, human care of the nonhuman creation is a part of an enriched understanding of the Gospel itself.

Part 3, Reorienting: Hopeful Ways Forward, consists of seven chapters. There are no quick fixes offered, but the emphases on hope and justice were welcome. Not all people are equally able to protect our world, as a story about poor tea-farm workers illustrated. In America, environmental racism causes people of color to be more exposed to toxins and to be given less opportunity to

experience many good aspects of the nonhuman world. Lead exposure in Flint and Grand Rapids, Michigan, highlighted these problems. In spite of these things, Part 3 describes actions people can take, the value of urban areas, and the ability of humans to alter unjust systems and to envision a world of shalom based on freely given gifts—an economy of reciprocity.

*Beyond Stewardship* is a thought-provoking and well-written book. Coordination of chapter format, references by each author to other chapters, and strong editing made this book an easy read. Only about five of the authors are scientists, but the science is connected to philosophy, economics, geography, theology, and other fields so well that it is appropriate reading for Christians both inside and outside the various scientific fields.

If there are weaknesses in the book, they stem from the flip side of the writing harmony of a group of close friends and colleagues. There are (possibly mistaken) assumptions about the audience's prior knowledge of American evangelicalism and general theology. Although the preface addresses this briefly, the difference between reformed theology and other theologies was not very clear. There were also some missing voices in a book that is written about connectivity. While chapters on environmental racism, human rights, and Native American approaches to the world dealt with these topics respectfully, almost all of the chapters were written by white North Americans. Including African American voices in the reformed tradition and the theology of Native American Christians, such as Terry LeBlanc or the late Richard Twiss, was not possible with the writing of the book by this particular group of colleagues. The omission was unavoidable given the origin of the project, but still unfortunate.

*Beyond Stewardship* skirts some difficult theological problems. For example, whether Christians believe that only spiritual death, only physical death for humans, or all physical death on Earth resulted from the Fall, believers struggle with questions about the goodness of current creation. Did sin change the world so much from God's original design without death that the lion, eagle, leviathan, and shark would not have existed except for the Fall? Alternatively, were lions and hyenas fighting over food, diseases, parasites, poisonous plants, tornadoes, and snake bites actually always part of God's good creation? How you view these ideas affects what you think God expects of humans caring for the rest of creation.

There are a number of places where authors use the Bible to support a particular statement, but then do not respond to other passages that are commonly used to conclude almost the opposite. For example, *Beyond Stewardship* stresses continuity between our mortal

world, the kingdom of God, and heaven. However, the apostle Paul appears to distinguish between flesh and spirit, worldly and heavenly (for example, John 6:63, 2 Corinthians 5). Likewise, the discussion of human kinship with animals would have been strengthened by some response to the Old Testament commandments to kill animals.

Critics of creation care, such as the Cornwall Alliance,<sup>3</sup> express the belief that environmentalists are worshipping the environment, approaching pantheism, and believing New Age teaching. The Cornwall Alliance holds that care for the poor is not compatible with climate change response. These are common perceptions, but they were not addressed. Nonetheless, no book can touch on all of the questions raised by a new approach to caring for the world we inhabit. *Beyond Stewardship* has prepared us for a great deal of scholarship to come. As we approach global environmental crises, this hopeful, loving, and complex look at God and the created world is a breath of fresh air.

## Notes

<sup>1</sup>All biblical references or quotes are taken from the New International Version.

<sup>2</sup>Loren Wilkinson, ed, *Earthkeeping: Christian Stewardship of Natural Resources* (Grand Rapids, MI: Eerdmans, 1980).

<sup>3</sup>The Cornwall Alliance for the Stewardship of Creation was initially The Interfaith Council on Environmental Stewardship, which published *The Cornwall Declaration on Environmental Stewardship* in 2000 and took its current name in 2007. They claim that some Christians are falling into climate idolatry and that godly stewardship means dominion, continued human population increase, and continued fossil fuel use.

Reviewed by Dorothy F. Boorse, Professor of Biology, Gordon College, Wenham, MA 01984.



## HISTORY OF SCIENCE

**ON TRIAL FOR REASON: Science, Religion, and Culture in the Galileo Affair** by Maurice A. Finocchiaro. Oxford, UK: Oxford University Press, 2019. ix + 289 pages. Hardcover; \$32.95. ISBN: 9780198797920.

In 1633 Galileo was condemned by the Inquisition for holding that the earth moves, something they considered "false and contrary to Scripture." After reciting an abjuration, Galileo spent the rest of his life under house arrest. His major work, the *Dialogue on the Two Greatest World Systems*, was banned and remained on the *Index of Forbidden Books* until 1835.

Maurice A. Finocchiaro is a distinguished historian of science who has written extensively on science, religion, and culture in Galileo's day. In this book, he summarizes his earlier work and renders it accessible to a wider audience. He insists that the Galileo affair should

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be separated from the *original* affair that climaxed in 1633, and the *subsequent* affair, which began after his condemnation and continues to the present day. Looking first at the structure of the original affair, he sees an undeniable conflict that takes the form of religion versus science, namely, religion attacking science. "The scientist Galileo," he writes, "was persecuted, tried, and condemned by institutions and officials of the Catholic religion" (p. 250). The subsequent affair also consists of a conflict between science and religion, but this time it takes the form of science versus religion. For the past four centuries, the Roman Catholic Church has been under fire from scientists and alleged representatives of the scientific method for its treatment of Galileo. This can be seen in the writings of Milton, Voltaire, and Einstein, which Finocchiaro considers merely the tip of an iceberg of anticlerical feeling. On the other side, the proclerical side, we find various apologists, such as Pierre Duhem and Paul Feyerabend, who attempted to defend the church and blame Galileo.

Finocchiaro claims to have followed Galileo's ideal of open-mindedness and to have dug below the surface of anticlerical criticism and proclerical apologetics. He believes he has found what he characterizes as a phenomenon of myth-making and mythologizing, that is, the rise, evolution, and fall of cultural myths. In the seventeenth century, various questions were raised about the physical truth of the motion of the earth, but science gradually established incontrovertibly that Galileo had been right on this issue. Galileo was also criticized for his hermeneutical principle that scripture is not a scientific authority; cultural developments also vindicated him in this regard, as is evidenced by the fact that this is now the official position of the modern Roman Catholic Church.

As it became increasingly clear that Galileo could not be validly accused of being a bad scientist, a bad theologian, or a bad logician, he started being blamed for other reasons. Some authors began to stress the legal aspect of the trial, charging that he had been guilty of disobeying the church's admonition regarding Copernicanism. Others blamed him for his epistemological realism and argued that the condemnation would have been avoided if epistemological instrumentalism had prevailed. In chapter five, Finocchiaro offers an interesting reappraisal of the first steps that the Inquisition took in 1615–1616 and that led to the condemnation of Copernicus. A high-ranking official, Michelangelo Seghizzi, is said to have enjoined Galileo to abandon completely the Copernican theory and, henceforth, not to hold, teach, or defend it in any way whatsoever. But it is also recorded that Galileo had just seen Cardinal Bellarmine who had issued a friendlier warning. Finocchiaro finds a number of inconsistencies in the available accounts, and he argues that Pope Paul V did

not intend an injunction as stringent as the one that was formulated by Seghizzi. This lack of clarity is important as it was to affect Galileo's trial seventeen years later.

Finocchiaro is also concerned with what he calls "the current spectacle of the Galileo affair." On the one hand, we witness the phenomenon of a rehabilitation movement within the Roman Catholic Church, which is exemplified in Annibale Fantoli, *The Case of Galileo* (2003). On the other hand, we see the rise of "socially oriented critiques of Galileo by leftist sympathizers and self-styled progressives," and we marvel at "the conflict between these two points of view, as well as the irony of the switching of sides" (p. 256).

In the context of the current controversies over the relationship between science and religion and between institutional authority and individual freedom, Finocchiaro pleads for a more fair-minded appraisal of the facts. We must take seriously the arguments for rejecting the ancient geostatic worldview voiced by Galileo's opponents but also defend him from uncritical praise or biased condemnation.

Few, if any, readers of this journal will want to dissent from the author's advice. It is commonsensical. We can perhaps regret that Finocchiaro did not quote recent works on Galileo in which we find a serious and scholarly attempt to explain what happened and to suggest what we can learn from the unfortunate and misguided battle between science and religion. One could mention, among other works, J. L. Heilbron's *Galileo* (2010) that offers an objective assessment of the clash between science and religion.

*Reviewed by William R. Shea, Professor Emeritus, University of Padua, Italy.*

**THE GESTATION OF GERMAN BIOLOGY: Philosophy and Physiology from Stahl to Schelling** by John H. Zammito. Chicago, IL: University of Chicago Press, 2018. 354 pages + 147 pages of notes, indices of names and of subjects. Hardcover; \$45.00. ISBN: 9780226520797.

John Zammito has published a substantial corpus of works on Immanuel Kant and contemporaries. He served as Weir Professor of History at Rice University from 2007 to 2019; this year he migrated to Rice University's Baker Residential College, where he is Baker College Chair for History of Science, Technology, and Innovation. Beyond his primary body of work on the history of ideas in the Enlightenment period, he has also authored a useful commentary on the modern ("post-positivist") history of the philosophy of science. He notes in his acknowledgment section that the present work is the result of ten years of labor. The thoroughness of his account is impressive; the book is not a quick read, and especially not if one takes the time to



glean the source documentation and commentary in the lengthy section of notes.

During the early eighteenth century, the mechanical-mathematical description of natural phenomena promoted by Descartes, Gassendi, Boyle, and Newton, was in its glory. Its clarity and cleanness of approach, especially manifest in Newton's *Principia*, provided strong support for the Cartesian reduction of living systems to machines. And beyond, it established the fruitfulness of experiments. But whereas a machine approach to living systems could prove successful in some dimensions, such as depicting a circulatory system as a device of plumbing and pump, other aspects of living systems proved more problematic. For example, the ability of life forms to organize themselves as they developed from an embryo, to take in nutrients and grow, and to repair and reproduce themselves argued that organisms were more than Cartesian-Newtonian clockworks. Enlightenment savants sought a more holistic model for organismal design, one which would include phenomena such as self-organization and goal-directed behaviors, while at the same time not falling back on Aristotelian, Hermetic, or other hidden spiritual forces. A clear identification of processes common to major groups of life, or perhaps all of life, would prove necessary.

The materials at hand were primarily those from two sources or practices: the long tradition of natural history, with its reservoir of comparative data for systematic organization; and medical physiology, which itself had a complicated and often contentious relationship with contemporaneous chemical researches. Both traditions were replete with teleological referents. Zammito chronicles the attempt by Enlightenment scientists and savants to articulate an overarching theoretical framework, or at least a research program, by which to unify these practices. By the mid-to-late eighteenth century, a major geographic center for this effort was concentrated in emerging German universities and medical schools, although prominent natural historians elsewhere, such as Boerhaave, Camper, Linnaeus, Maupertuis, and Buffon were marshalling data and ideas which pushed the discussion. Zammito judiciously dissects the ligaments of experiment, theory, and personality, which became intertwined as the new discipline of biology was birthed. I attempt to sketch some of the highlights of Zammito's narrative below.

The poet/physiologist Albrecht von Haller (1708–1777) is the focal personage of Zammito's early narrative, and a foil for further developments in the middle 1700s. Haller, a devout Bernese Calvinist, studied at Boerhaave's medical school in Leiden during the middle 1720s and then undertook advanced mathematical training with Johann Bernoulli in Basel. Along the way,

he became a respected anatomist as well as a convinced proponent for the experimental approach to physiology. Haller would land a position in anatomy at the University of Göttingen, where he published a critical edition of Boerhaave's works, as well as providing an introduction to the German translation of the first volumes of Buffon's *Histoire Naturelle*. In 1753, a substantive lecture delivered to the Göttingen Academy was published. In this lecture, Haller addressed two topics of physiological import: the "sensibility" of nerves, and the "irritability" of muscular tissue. While Haller himself was inclined to interpret these as resulting from mechanism, this publication, as well as his several years of experiments (often on live animals), triggered a wide discussion on the nature of organisms and their behaviors. In 1753, Haller returned to Bern, where he would write works on embryology and compile massive bibliographies of physiological publications. Sensibility and irritability remained at the forefront of a growing list of phenomena demanding a different level of interpretation than that of wheels and pulleys.

Johann Friedrich Blumenbach (1752–1840) is central to the middle third of Zammito's narrative: he "came to be the patriarch of German life sciences well into the nineteenth century" (p. 186), taking on the role of biological authority following Haller's death in 1777. Blumenbach studied at Göttingen, where he received his appointment as extraordinary professor in 1776 and promotion to ordinary professor in 1778. He also served as an industrious curator of the university's natural history collections. His many publications included a two-volume *Handbook of Natural History* (1779–1780), which underwent many subsequent revisions, and a *Handbook of Comparative Anatomy* (1805). His students included Alexander von Humboldt, C. F. Kielmeyer, and G. R. Treviranus among others. He traveled and corresponded widely. While revering Haller, Blumenbach differed significantly on embryology: he sided with the rising epigenetic school of organismal development, rather than Haller's preformationist thought. Following Caspar Friedrich Wolff, Blumenbach believed that epigenesis, in turn, required an innate or immanent organizational principle within the organism, which Blumenbach famously named "Bildungstrieb" or formational drive. Propagation, nutrition, and regeneration were to be included as aspects of the Bildungstrieb.

Like Buffon, Blumenbach realized that Earth and its life were far older than the then-common belief of a few thousands of years. He took up the subject of fossils in the first and subsequent editions of the *Handbook of Natural History*, affirming a lengthy history to Earth and life. Engaging with the geology of his compatriot Abraham Werner as well as the Swiss Calvinist André de Luc, he opposed a cyclical view of geohistory then being elaborated by James Hutton. The distribution of

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fossils in successive stratal horizons argued that Earth catastrophes (“revolutions”) resulted in major extinction events followed by repopulations of Earth’s surface by new life forms. These biotic replacements, in fact, could well be a potential effect of the *Bildungstrieb*. However, Blumenbach did not feel free to postulate continuities in the history of life. Rather, following a major catastrophe, the *Bildungstrieb* would be forced into new directions, and new life forms (in many cases, not totally unlike prior forms) would naturally emerge.

The latter portion of Zammito’s volume includes a chapter on Carl Friedrich Kielmeyer (1765–1844) and his influence on the course of nineteenth-century-biological science. Zammito contends that Kielmeyer, although a student of Blumenbach’s, did not derive his biophilosophy from the Göttingen professor. Kielmeyer published little, but he influenced a broad cadre of his students at Stuttgart, as well as others, through unpublished and published class notes; he himself furnished annotated versions of his class notes to his friend Cuvier and to Goethe. His published 1793 address, “On the interrelations of the organic forces in the series of different organizations, the laws and consequences of these” set forth a rationale for organizational and research principles for what Treviranus would later term “biology” (1802). Kielmeyer described organic systems as supervening on organic chemistry but as entirely natural, thus requiring a new layer of laws and an organizational schema which, in turn, required a historical-hierarchical structure to the realm of living creatures. Zammito documents the energizing effect of this proposal for the biology of the first half of the nineteenth century.

A running dialogue between these early biologists and contemporary philosophers, including Diderot, Herder, Kant, Goethe, and Schelling, helped variously to clarify or complicate epistemological issues or the warrant for research. Schelling’s proposal, which he termed “*Naturphilosophie*,” affirmed that life’s organization could be investigated via natural principles and appeared to resolve some of the epistemological issues posed by Kant. It would prove inspirational to Ignaz Döllinger, and through Döllinger, to the anatomists von Baer, von Pander, and Oken. However, Schelling’s conjunction of *Naturphilosophie* with Spinozism led to disenchantment with *Naturphilosophie* among German scientists of the next generation.

Zammito’s book is thorough and thoughtful. He is fluent in the primary literature and effortlessly dialogues with both past and contemporary interpreters. In places, he graciously but unapologetically disagrees with some of his colleagues. It may well be the case, as Stephen Gaukroger claims in his jacket recommendation, that “*The Gestation of German Biology* is his

crowning achievement.” It is of great use as a reference and highly recommended.

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



## MEDICINE AND HEALTH

**FEARFULLY AND WONDERFULLY: The Marvel of Bearing God’s Image** by Paul Brand and Philip Yancey. Downers Grove, IL: InterVarsity Press, 2019. 272 pages. Hardcover; \$14.59. ISBN: 9780830845705.

I first read Paul Brand and Philip Yancey’s books, *Fearfully and Wonderfully Made* and *In His Image*, in the 1980s. I loved them so much that, when I began teaching anatomy courses as a faculty member in the mid-1990s, I made *Fearfully and Wonderfully Made* required reading for students in my human anatomy courses. Now, after more than two decades of reading student journal responses to this thoughtful and deeply meaningful book, I can say with confidence that it has been an excellent tool in helping students integrate anatomy and their Christian faith. Therefore, when *Fearfully and Wonderfully: The Marvel of Bearing God’s Image* was released, I couldn’t wait to read it. *Fearfully and Wonderfully* combines the original two books into one volume. Brand died in 2003, so to write this revised and updated combined edition, Yancey went back to his original interview notes and Brand’s writings, and also incorporated updated information.

The familiar verses of Romans 12:4–5 introduce us to the image of the Body of Christ as an analogy for the church. In Romans, Paul teaches us that every part of that Body plays its own important role. In *Fearfully and Wonderfully*, Brand, through the pen of Yancey, expands the scriptural image of the church as the Body of Christ with unforgettable stories of Brand’s work with lepers in India and in the United States. For example, he asks the reader to consider the body’s skeleton. Our skeleton provides more freedom than restriction compared to organisms that have an exoskeleton, such as a crayfish. In an analogous way, God’s laws are intended to free us rather than restrict us. I was particularly convicted when he pointed out that, like an exoskeleton, rigid, rule-focused faith does not accommodate the kind of growth and adaptation that a grace-focused internal skeleton does. He reminds us of the importance of touch and the miracle of the compliancy of skin, urging us to consider the value of compliancy when we (Christians) work and live among others who may not share our beliefs and values. And he asks us to think more deeply about what the Lord’s Supper means if we more fully understand the structure and function of blood.



I found Brand's exploration of the role of pain to be the most poignant. As a physician who has treated thousands of leprosy patients, Brand knows, *really* knows, the function of pain and how wrong things go when we lose the ability to feel pain. Pain warns us that a body part needs special attention. We avoid constant re-injury because of pain, so that a body part can heal. Similarly, Brand reminds us that it is important to pay attention to the parts of the Body of Christ that are suffering. "I can read the health of a physical body by how well it listens to pain ... Analogously, the spiritual Body's health depends on whether the strong parts attend to the weak" (p. 187). How the church needs this lesson today!

In the early chapters of this book, Brand describes his unexpected call to medicine. He was raised in India by his missionary parents and planned a career in construction with intentions of using it back in India. He had seen firsthand how expertise in construction could improve the lives of the people of India. He tells the story of how he was drawn reluctantly to medicine when he witnessed a blood transfusion bring a patient back from near death. He altered his path and trained as an orthopedic surgeon, specializing in the hand. When Brand describes how he came to work with patients who suffer from leprosy, he shares his surprise with the reader when he realized that both his construction and his medical training were critical in caring for those who could no longer feel their limbs. Brand treated the disease (medicine) but also designed shoes (construction/engineering) that avoided the development of pressure sores that form when a leprosy patient fails to shift their gait the way those of us with feeling in our feet do, without even thinking about it.

I hope that my students, worried about choosing a major and a career while trying to discern God's will for their lives, will find comfort and wisdom in Brand's winding path to uncovering God's will when they read this book. I'm using the book's discussion questions as prompts for student journals. The responses so far have been uniformly positive. Students who began reading with dread—another book a professor wants them to read—found themselves deeply engaged. All readers, not only anatomy students, will find a message for them in this book.

The discussion questions make this book easily accessible for small groups or adult Sunday school classes and for any member of the Body of Christ who needs a reminder of what that membership really entails. All will benefit from *Fearfully and Wonderfully*.

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## Φ PHILOSOPHY

**SINCE THE BEGINNING: Interpreting Genesis 1 and 2 through the Ages** by Kyle R. Greenwood, ed. Grand Rapids, MI: Baker Academic, 2018. 308 pages. Paperback; \$27.00. ISBN: 9780801030697.

Anyone familiar with the exegetical history of the first two chapters of the Bible knows that dealing with this topic in a single book is an impossible task. There have been more attempts to understand Genesis 1 and 2 than any other biblical chapters, and there has never been a wider range of differing and conflicting interpretations. Yet despite this situation, Old Testament scholar Kyle Greenwood has assembled a fine team of academic specialists from various disciplines, and they offer in this book a remarkably informative and insightful set of chapters/papers introducing readers to this challenging topic.

Most of the chapters follow a four-part rubric: (1) the interpretation of the days of creation in Genesis 1, (2) the cosmology or structure of the world, (3) the creation of humans and their status, and (4) the Garden of Eden (p. xxi). In the preface, Greenwood makes an important qualification regarding the use of the term "literal" in biblical hermeneutics. For some, it means "a plain-sense reading of the text." But for others, literal "refers to the text's intended usage given the word's context and the genre of the literature in which it appears" (p. xxiii). In this way, Genesis 1 and 2 can be read Christologically, eschatologically, allegorically, typologically, metaphysically, philosophically, midrashically, or scientifically.

In the opening chapter, Greenwood points out that there are very few direct references to Genesis 1 and 2 in the rest of the Old Testament. Notably, Adam rarely appears after Genesis 5 and Eve is never mentioned after Genesis 4. At best, Greenwood suggests that there are what he terms numerous "echoes" or "reverberations," alluding to these opening chapters (p. 21). For example, typological allusions to the Garden of Eden appear with the expressions "the garden of God" (Ezek. 28:13; 31:8-9) and "the garden of the Lord" (Gen. 13:10; Isa. 51:3). Greenwood concludes that these echoes and reverberations are subtle evidence that the biblical authors were not concerned with the order of creative events or the time frames in Genesis 1, in contrast to the desires and assumptions of many Christians today.

Michael D. Matlock examines Jewish interpretations of Genesis 1 and 2 during the Second Temple period (roughly 587 BC to 70 AD). Exegetical practices were influenced by Hellenistic philosophical categories. Even the translation of the Old Testament into Greek (Septuagint; LXX) features, in places, Platonic concepts.

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For example, Genesis 1:2 refers to the earth being “empty” (NIV), but in the LXX this adjective is rendered “invisible” or “unseen” (Greek: *aoratos*) and points back to Plato’s invisible pre-existing world of ideas (p. 30). In an important development in the history of exegesis, Philo of Alexandria champions allegorical interpretations and even spurns literal readings of the six days of creation in Genesis 1 (p. 42). This approach later makes its way into Christian biblical interpretation.

In a chapter entitled, “New Testament Appropriations of Genesis 1–2,” Ira B. Driggers deals with the well-known fact that New Testament (NT) writers tore Old Testament (OT) passages completely out of their original context. But he notes that this hermeneutical approach was “commonplace in Second Temple Judaism” (p. 48) and that “NT writers do not engage Genesis (or any other OT document) as a way to preserve its ‘original’ meaning, much less to verify the historicity of past people and events, but rather they draw out the implications of the central Christian claim that Jesus Christ is risen Lord” (pp. 73–74). In other words, the Old Testament was not used to affirm concordist readings but rather for rhetorical and theological reasons affirming the Christian faith.

Eisegetical eccentricities are further revealed in Joel S. Allen’s essay, “Early Rabbinic Interpretations of Genesis 1–2.” The rabbis assumed that scripture was “omnisignificant,” in that every biblical detail leads to “a never-ending world of interpretive possibilities” (p. 80). As Allen notes, there was not one meaning for a passage, but “a hundred million possible meanings” (p. 94)! This hermeneutical approach is often referred to as “midrash.” To offer a striking example from the Genesis Rabbah (first to fourth century rabbinic interpretations on Genesis), the Bible begins with the Hebrew letter *bêṭ* (equivalent to English “b”). This letter is shaped basically like a square with the left side open: 2. Since Hebrew is read from right-to-left, Genesis Rabbah 1:10 argues that

it isn’t permitted to investigate what is above [the upper line, i.e., the heaven], what is below [the lower line; i.e., the underworld] and what is before and what is behind [to the right of the vertical line; i.e., the past]. But from the day the world was created and thereafter (it is permitted) [the open side of *bêṭ*]. (p. 82)

In a chapter on the Ante-Nicene fathers, Stephen O. Presley notes that they were engaged in countering Greco-Roman philosophical concepts, such as the eternity of the world. As a response, a well-developed doctrine of *creatio ex nihilo* emerged through the work of Justin Martyr, Tatian, Theophilus, and Irenaeus (p. 108). These fathers approached Genesis 1 and 2 with a hermeneutical balance between literal and spiritual meanings.

The latter included a range of literary categories such as allegory, typology, tropology, and eschatology (p. 102). In dealing with the Nicene and Post-Nicene fathers, C. Rebecca Rine observes that they maintained the Ante-Nicene trend of responding to Platonic, Aristotelian, and Manichean philosophies by appealing to Genesis 1 and 2. St. Augustine was a leading critic of the Manicheans. These fathers also continued to read scripture both literally and allegorically, and Rine notes that they held a trivium of exegetical concerns: recognition of human authorial intention, consonance with fundamental church teachings, and sanctification of the reader and listeners (p. 128). Yet cosmological questions related to Genesis 1 and 2 were not far from the minds of these fathers. For example, they asked why the four elements (fire, wind, water, earth) are not *all* mentioned in the first chapter of scripture, or why are there no details about the shape of the earth and its circumference (p. 142). Concordist proclivities seem to be an inevitability in the human mind.

Jason Kalman, in “Medieval Jewish Interpretation of Genesis 1–2,” notes that a “revolutionary change” in rabbinic hermeneutics arose during the eleventh and twelfth centuries (p. 149). A trend began with contextual readings of scripture, known as “*peshat* exegesis.” Biblical scholar Rashi was a leading proponent. However, exegetical polysemy continued. Famed philosopher Maimonides, in attempting to resolve philosophical and scientific conflicts with scripture, came to believe that the Bible “communicates on multiple levels according to the reader’s intellectual ability. Simple people could read narratives in a straightforward manner [being unaware of a conflict], while the intellectuals [being aware of a conflict] could read them as parables intended to reveal philosophical truths” (pp. 150–51). A sense that cosmological issues were incidental to religious truths also emerged. Rashi’s grandson Rashbam argued that the purpose of Genesis 1 was not to reveal how God created the world, but instead this first biblical chapter was symbolic and intended to promote observance of the Sabbath (p. 158).

In contrast to their Jewish colleagues, medieval Christian scholars, according to Timothy Bellamah,

took for granted that the creation narratives provided a historical record of some sort, and they took it as part of their task to ascertain the chronology of events on which they commented, doing this for the sake of establishing a *comprehensive history of the world*. (p. 187; my italics)

In this way, concordism became deeply embedded because these Christians assumed that the Genesis narratives could be aligned with the philosophy and science of the day. Debates arose on whether all things in the world were created simultaneously, or whether

they were made over a period of time, such as six days (pp. 175–76). But Thomas Aquinas put discussions about God’s creative method in perspective. He writes in his *Commentary on the Sentences*, “[T]here is something belonging to the *substance* of faith, namely that the world began at creation ... By what mode and order it was made, however, belongs to the faith only *accidentally*” (pp. 1254–55, my italics). In other words, the message of faith in Genesis is *that* God created, but *how* he created is incidental.

Concordism and the literal interpretation of Genesis 1 and 2 find their zenith in the Protestant reformers Martin Luther and John Calvin, both of whom were young-earth creationists (pp. 195, 197). Jennifer Powell McNutt underlines that “overreliance of allegorical readings” in earlier generations and belief in the “primacy of literal interpretation” led to the “hermeneutical lens of historicity” being applied throughout early Protestantism (p. 190). Luther fully depicts this method in his 1536 *Lectures on Genesis*. “[W]e assert that Moses spoke in a literal sense, not allegorically or figuratively, i.e., that the world, with all its creatures, was created within six days, as the words read” (p. 195). Luther and Calvin also accepted the cosmic fall. The latter contended that “corruptions” and “deformity of the world” were more the result of the “sin of man than the hand of God” (p. 197). Yet both reformers had an “appreciation for the doctrine of accommodation,” which “allows the [biblical] text to speak truth to the common person without disproving the natural philosophy [i.e., science] of the period” (p. 204).

In his chapter entitled “Post-Darwinian Interpretations of Genesis 1–2,” Aaron T. Smith discusses the wide range of exegetical approaches and reactions to the theory of biological evolution. He notes that Christians in Darwin’s generation, such as the Baptist theologian Augustus Strong and the Anglican priest Charles Kingsley, were comfortable with absorbing evolution into their theology. Yet others, like Presbyterian theologian Charles Hodge, viewed Darwin’s reductionist theory as “atheistic” (p. 262). The twentieth century saw a similar range of views. Seventh-day Adventist George McCready Price inspired fundamentalists Henry Morris and John Whitcomb to write *The Genesis Flood* in 1961, which ushered in the modern young-earth creationist movement. Baptist theologian Bernard Ramm attempted a concordist harmonization between scripture and geology with his “trinitarian progressive creation” (p. 252). Movements away from concordism also arose from both liberals, such as Rudolph Bultmann, and conservative Christians, such as Karl Barth.

David T. Tsumura in his chapter reveals that archaeological discoveries in the ancient Near East (ANE) have significant implications for the interpretation of

Genesis 1 and 2. Beginning in the late nineteenth century, this evidence sets the historical and intellectual milieu during which the inspired biblical authors wrote their creation accounts. For example, the terms “image” and “likeness of god” were applied to ANE kings (p. 230). But in a radical polemical move, Genesis 1:26 NASB states, “Then God said, ‘Let us make man in our image, in our likeness, and let them rule.’” In other words, *all* humans are like earthly kings representing the Creator. This “royal designation” assigned to men and women to rule the world was in sharp contrast to the ANE belief that they are merely slaves of the gods. Notably, Tsumura takes to task the theologically fashionable idea that Genesis 1 reflects a cosmic temple. He argues that “one cannot say that the cosmos, let alone the Garden of Eden, was made for Yahweh to dwell in” (p. 229). Tsumura appeals to 1 Kings 8:27 NIV, “But will God really dwell on earth? The heavens, even the highest heavens, cannot contain you. How much less this temple I [Solomon] have built!” He then adds that Isaiah 66:1 views the heaven as God’s throne and the earth as his footstool.

To conclude, this book is a “biopsy” of the wide range of interpretive approaches to Genesis 1 and 2 throughout the ages. The days of Genesis 1 have been understood as literal 24-hour days, symbolic and allegorical days, and geological periods hundreds of millions of years long. Cosmological interpretations have included concordist attempts to align scripture with geocentricity, heliocentricity, geology, and evolution. The Garden of Eden has been viewed as a literal historical place, or viewed figuratively and allegorically. And the *de novo* creation of a historical Adam has proven to be quite resistant to reinterpretations over time. I suspect that further exploration of ANE creation accounts and an appreciation of their ancient understanding of living organisms (biology) will free the church from this last concordist stronghold.

This is a very good book. It is very well documented, quite readable for a general audience, and offers a wide range of valuable insights by leading scholars into the various hermeneutical approaches to Genesis 1 and 2 throughout history. This is an important contribution, and I very much recommend that it be added to your library.

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**ON THE ROAD WITH SAINT AUGUSTINE: A Real-World Spirituality for Restless Hearts** by James K. A. Smith. Grand Rapids, MI: Brazos Press, 2019. 256 pages. Hardcover; \$24.99. ISBN: 9781587433894.

Science and philosophy originate from the human quest for knowledge. “Science” derives from the Latin



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noun *scientia* based on the verbal root *scire* “know.” *Scientia* in turn borrows from the Greek concept *epistemonikos* “making knowledge,” based on the verbal root *epistomai* “know/ understand,” which founds the philosophical discipline of epistemology. Existential pondering of knowledge has always been seminal for Christians, who believe Jesus Christ to be the incarnation of the wisdom of God (1 Cor. 1:24) and the life of God — “the ‘logos’ who was with God, was God, was the creator of all that exists, and is the life which is the light of humanity” (John 1:1–5).

*On the Road with Saint Augustine* is philosopher James K.A. Smith’s intellectual autobiography. Smith’s confessional desire “to know” true meaning, identity, peace, and authentic life is the book’s “on-ramp” into a journey stimulated by conversations with Heidegger, Camus, Sartre, Derrida, Marcel, and Nietzsche, along with brief exchanges with the popular voices of Ingmar Bergman, Ferdinand Hodler, Bruce Springsteen, Joel Osteen, Walker Percy, and Thomas Wolfe, among a host of other interesting interlocutors. Smith’s constant companion, however, is St. Augustine, whose reflections emerge truest to the author’s own life and experience.

Augustine’s arrival at wisdom began with the brazen journey currently traveled by many postmoderns — the quest for self-discovery, glory, and satisfying pleasure. We hit the road, Smith suggests, because parents are thought clueless and everything we want is out there, on the road. “‘Here are the keys’ is a quasi-sacramental pronouncement that unleashes you to finally be yourself” (p. 60).

On this account, the Prodigal Son is our archetype. We are all prodigals suffering the delusion of self-sufficiency away from the true home of our heart’s desire and need. Like the Prodigal, human journeys always prove restless until the traveler comes to know the Father’s embrace.

Existentialists help us to understand the rationale of the road. For the nonphilosopher, this revelation is Smith’s most surprising insight. The one who introduced Smith to Augustine was none other than Martin Heidegger, whose categories of thought, if not semantics, were formed by courses Heidegger once taught on Paul’s letters and Augustine’s *Confessions*. The connections are readily apparent. As Paul admonished Christians to “not be conformed to this world” (Rom. 12:1), so Heidegger warned against falling prey to the “mass society of ‘the they’ (das Man) — an idea conceived in Heidegger from Augustine’s disdain for ‘absorption’ in the world” (p. 30). As Augustine came to know liberation through confession, so Heidegger “took up Dasein, which means ‘being there’” (p. 28). Smith explains:

And so Dasein functioned like a philosophical saint of sorts, an exemplar to imitate. Could we measure up to “authentic” Dasein, seizing possibilities and resisting temptation? Could we learn to be resolute, to resolve to answer the call of being, to seize our inmost possibilities — to become the “I” that I’m destined to be? As Bakewell rightly notes, while later existentialists would frame this as a call to “be yourself,” for Heidegger it was a “call to take up a self that you didn’t know you had.” (p. 28, quoting Sarah Bakewell, *At the Existentialist Café*, 79)

Invisible to the untrained eye, Smith argues that these thoughts undergird our postmodern world:

Existentialism seeped into the postwar water and was disseminated not only in philosophy books but in film and art, perhaps especially in the movies. (p. 28)

The DNA of our quest for authenticity points to the legacy of Heidegger and existentialism. (p. 29)

Hence, in philosophy as in life, the existential quest for authentic truth is the place where the rubber hits the road. The heart’s desire is for a road to a true home. It is a quest.

The book’s skeletal outline follows intuitively: “Heart on the Run,” “Augustine our Contemporary,” “A Refugee Spirituality,” “Freedom,” “Ambition,” “Sex,” “Mothers,” “Friendship,” “Enlightenment,” “Story,” “Justice,” “Fathers,” “Death,” “Homecoming.” As Smith unveils his story, it becomes apparent that the philosopher’s life has indeed tracked with Augustine’s — through stretches that he no doubt would have preferred not to tell, but toward a destination that he, like Augustine, has found worthy.

Smith finds the quest for self-realization a mirage. “The highway is my way” (p. 60), an itinerary the postmodern quest diverts from authentic authenticity to a false way of life characterized by anxiety-laden punishing emptiness. Similar to Augustine’s preconversion state, Smith recalls how “freedom to be myself starts to feel like losing myself, dissolving, my own identity slipping between my fingers ... its own form of enslavement” (pp. 62, 63).

With the apostle Paul and St. Augustine, Smith arrives home, not by finding the right road but by *being found* by the grace of God: “It turns out that being free isn’t about leaving; it’s about being found” (p. 76). As Augustine put it, “The human will does not attain grace through its freedom, but rather attains its freedom through grace” (p. 71). The existential emptiness debilitating the postmodern world is thus a signpost signaling the need for another way — namely, the regenerative grace of God.

Grace isn’t just forgiveness, a covering, an acquittal; it is an infusion, a transplant, a resurrection, a revolution of the will and wants. It’s the hand of a

Higher Power that made you and loves you reaching into your soul with the gift of a new will. Grace is freedom ... [Grace is] the gift that gives you your self again. (p. 70)

Smith's treatment of existentialism and popular culture refreshingly refrains from demonizing the giants of secularism, while gently exposing their deficiencies as proponents of comprehensive truth. His subtitle, *A Real-World Spirituality for Restless Hearts*, finds expression in a scholarly honesty appreciative of the truth found in the precursors of postmodernism but sober to their blind spots. Following Augustine's navigation, Smith's *On the Road with Augustine* is a timely message for restless hearts whose self-charted courses have sputtered into despair.

What does such a book have to do with science? A great deal, if the ultimate goal of science is to understand the reality in which we live. And what, we may ask, is the end of science, if not to enrich life and human understanding of the world in which we live? Hence, science has as much at stake in epistemology as the humanities. For to do science without the big philosophical questions in mind is to be irresponsibly inhuman. Why perform science to prolong and improve life, if we don't know what it means to live? With Augustine, we may expect life on the home front to be neither a philosophy nor a science but a reunion with the Father of both.

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## SCIENCE AND RELIGION

**CAN A SCIENTIST BELIEVE IN MIRACLES? An MIT Professor Answers Questions on God and Science** by Ian Hutchinson. Downers Grove, IL: IVP Books, 2018. 288 pages. Paperback; \$22.00. ISBN: 9780830845477.

Imagine, in your student years, getting an opportunity to sit down with a new-found mentor for an extended period of time, to ask all of the questions that you have about faith and science. You may be coming from a wide range of backgrounds: new to your faith and unsure of how your interest in science can be reconciled with it, inexperienced and facing the reality of making it in the world on your own, or perhaps over eager to set the secular or academic world straight. Now imagine that this mentor engages you as a person and conversationally brings you along on a personal yet intellectual journey through all the answers to your questions. That is what Ian Hutchinson's *Can a Scientist Believe in Miracles?* is like.

The core of the book is derived from questions that Hutchinson has received through many years of par-

ticipating as a faith and science panelist for the Veritas Forum (veritas.org). From their website, the Veritas Forum seeks to "place the historic Christian faith in dialogue with other beliefs and invite participants from all backgrounds to pursue Truth together." As such, one can imagine the breadth and depth of questions Hutchinson has received (more than 220 according to the preface) to put him in a position to write a book like this. Fitting for the source material, the target audience is the university student looking for an introduction to these issues, and hoping for some answers.

In chapter one, Hutchinson gives a very personal account of his own spiritual journey and sets the tone for the book. This infuses the text with parts of Hutchinson that you might not otherwise see in his writings, and deepens the text, unlike sometimes dry or opaque academic readings. Each subsequent chapter focuses on an overarching topic such as "Are there realities that science cannot explain?" and "What is faith?" Under these headings, actual questions posed by participants in the forums are arranged, with Hutchinson's responses provided after each. The questions are used verbatim; this format was a good choice because they are very relatable. The scope of the questions is broad. Most of them are directly addressing faith and science issues and will probably be easily anticipated by a reader—for example, challenging the "scientific evidence" for Christianity or covering well-established "conflicts" between science and the Bible, such as cosmology and evolution. However, some questions are much more general and might be approached differently from a student more scientifically inclined, questions such as "Isn't Christianity's claim to uniqueness intolerant?" and "What explanation do you have for evil?" Others are surprisingly personal, such as "In my youthful experience of prayer, nothing ever happened. So ...?"

The format allows Hutchinson to provide direct answers to each question while also building context for the subsequent questions. His answers flow easily between personal and intellectual, providing earnest opinions along with concise but well-supported philosophical and scientific arguments for his position. While the book has a scholarly feel with many references to external philosophical and scientific works and scriptures, there are many clear definitions of terms and plainly worded explanations of these texts and arguments. Occasionally, in answering the questions, these explanations come at the expense of depth, but I think that they are appropriate. The notes section at the end has enough sources for the curious reader to follow up on a given topic. Many of the answers and refutations come back to themes familiar to Hutchinson's previous book, *Monopolizing Knowledge*: the definition of what science is and what validates knowledge. However, as

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part of some of the more general discussions on tolerance, I do feel that there was a missed opportunity to address more-current social issues, such as racial reconciliation and gender equality, that younger generations are likely to be concerned about.

However, overall, I recommend this as a great resource for those starting to seek answers to these questions. Having them all in one place and addressed thoughtfully will be valuable to students in need of a digestible introduction to the issues. I also admire this work as one of service that clearly was done with heart. It is a demonstration of commitment to teaching, mentoring, and equipping the next generations to be thoughtful and well informed about the intersection between their faith and science.

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**THE WORK OF HIS HANDS: A Scientist's Journey from Atheism to Faith** by Sy Garte. Grand Rapids, MI: Kregel Publications, 2019. 255 pages. Paperback; \$16.99. ISBN: 9780825446078.

*The Work of His Hands* is a curious book in that it is part memoir and part research, part expository and part apologetic. The book follows Garte's conversion from confirmed atheist to devout follower of Jesus Christ. Garte was raised in a nonreligious Jewish family with deep commitments to the Communist Party. He was reared to believe that religion was not only wrong but evil. His parent's atheism was passionate and deeply felt; like all faiths, "the faith I was born into raised questions" (p. 22). With the help of science, Garte says he began to lose faith in atheism.

The book is laid out in two parts. The first part deals with the issues, mainly scientific but some social and philosophical, that persuaded Garte's eventual conversion to Christianity. The second part deals with the questions he had to face once he committed to the faith. These questions are more philosophical in nature and deal with the problem of evil, love, freedom, and, most applicable to this work, the relationship of science and the Christian faith.

Garte explains that discoveries of chance, complexity, and chaos began to chip away at his faith in scientific materialism. The "simple, elegant solutions that scientists have traditionally sought are consistent with a materialistic view of nature ... chaos, fractals, complexity, and other modern findings of science" led him to doubt pure materialism (pp. 49–50). A positive reason to believe in God came in the form of cosmic fine-tuning. The sheer improbability that nuclear (strong and weak), gravity, and electromagnetic forces would have just the

right values at the moment of the big bang to produce a life-affirming universe is nothing shy of a mystery. There are possible explanations for this improbability. For example, the multiverse theory is a possibility, but this is no less a supernatural explanation, according to Garte, than is theism.

The questions hardly stop with the complexity of physics and quantum mechanics but extend into biology and chemistry. Life itself is terribly complex (and "magical," to use Garte's word), from chemistry to genetics to evolution. But the most special of all life is human life. Some people accept plant and animal evolution but draw the line at human evolution. "I can understand that, and in a way I even agree." Not that Garte rejects descent with modification, but that "I strongly believe that people are special" (p. 82). Garte seems to affirm some form of substance dualism when he argues that human exceptionalism which has produced masterpieces of art, technology, and self-sacrifice, to name a few, is due to two things: evolution which has produced our bodies (including the brain), and the mind.

In the chapter, "Origins," Garte argues that there is a tripartite mystery that science has struggled to explain—the origin of the universe, life, and human consciousness. He notes that it would be a "God-of-the-gaps" fallacy to appeal to the divine as the explanation for these unanswered questions. But it is in these epistemic gaps that Garte first considered the possibility of God's existence. Some may accuse Garte of blurring the lines between science and faith (and that may be his point) when he writes, "I believe that if and when we do finally gain some scientific understanding on the origin of the universe, the origin of life, and the origin of human consciousness, we will find further pointers to the creative action of God" (p. 98). He uses the remainder of this chapter to show how it is reasonable to conclude that God is the rational explanation for these three origins. However, these origin mysteries were not what finally led to Garte's faith; no, it was not until Garte could see the limits of science that his eyes were opened to faith.

"Science and knowledge are not synonymous ... there are other kinds of knowledge that are not scientific—they fall outside the methods or interests of science." These other kinds of knowledge include not only social science but also "art, love, and compassion" (p. 120). Garte here is going after scientism, the view that science is our only means of truth. If science cannot answer all questions, even all scientific questions, then there is reason to consider other claims. Garte says that the scientific method took him as far as it could, but the epistemic road continued even though it could not be traversed any further by science. It was time for a new means of travel.



The main body of the book ends with Garte explaining how he accepted the call to faith. This chapter is personal and reflective, as he recalls a dream, his first experiences attending church, his conversion, and his discovery that there were other scientists who were committed Christians. The chapter ends with Garte recalling an imaginary, but quite lovely, sermon he preached in his mind while driving the Pennsylvania Turnpike.

Part 2 of the book, "Issues and Questions," is more philosophical than the first half. Here Garte takes a somewhat defensive apologetic stance, defending Christianity against claims such as Christianity is oppressive, dogmatic, baseless, or contradicting. The most theological chapter, "Love and Freedom, Chance and Will," delves into the problem of evil, theodicy, divine love, and purpose. Garte admits, "My own approach to theodicy is not theologically sophisticated" (p. 164). While I did have some musings about the assumptions and implications of Garte's approach, I was nonetheless appreciative of many of his affirmations, especially his commitment to the idea that love and freedom are necessary features of this world. "We must be free in order to love and to be loved. Free will allows us to have faith and a relationship with God" (p. 174).

The final chapters of the book delve into a defense of evolutionary creationism, critique of atheistic evolution, and appraisal of the intelligent design movement. Garte believes that the universe is designed, but he prefers to speak about "divine design" instead of "intelligent design" because "the mechanisms by which life was designed and created are not currently within our ability to understand" (p. 186). Although we may never know such mechanisms, Garte takes the radical stance that faith and science, the books of scripture and nature, "will in the end meet at one single point of perfect harmony" (p. 212). He ends declaring that "modern science leads to faith in God and that a scientific understanding of nature can never be complete without the acknowledgment that the Creator of the universe is the Author of all" (p. 221).

The book was both enjoyable and informative. I would not normally have read a memoir had I not been asked, but I am happy that I did. There is a bit of a question as to just who this book is written for. The scientific discussions do not require a science degree, but a fair amount of acquaintance is presumed. For those who are less versed in science (like this author), do not fear, there is a brief but helpful appendix which provides some details regarding molecular biology and evolution. My sense is that the book is less for Christians who need to come to terms with the real findings of science and more for

the science-minded agnostic who questions whether Christianity can reasonably be considered.

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## TECHNOLOGY

**AUTOMATION AND UTOPIA: Human Flourishing in a World without Work** by John Danaher. Cambridge, MA: Harvard University Press, 2019. 336 pages. Hardcover; \$39.95. ISBN: 9780674984240.

John Danaher opens his book *Automation and Utopia: Human Flourishing in a World without Work* with the claim, "Human obsolescence is imminent." What we do, he argues, is increasingly less relevant "to our well-being and the fate of our planet" (p. 1). The Anthropocene is yielding to the Roboscene, and soon "there will be little left for us to do except sit back and enjoy the ride" (p. 2). If we don't want to end up sated and stupefied in *WALL-E* world, Danaher urges, we need to imagine how humans will find meaning and value in a post-work society.

Danaher begins by making a case for the possibility of automating all forms of work "performed in exchange for an economic reward" (p. 28). Automation, which already has a long history, will continue to advance further into agricultural, industrial, financial, legal, medical, governmental, scientific, and every other form of physical labor and into the affective domain. Next, Danaher argues that we should accept this as a good thing and hate our jobs (even if we love them). The current reality of work for many is bad—precarious, inequitable, oppressive, and unsatisfying—and it is getting worse. Since the "structural badness" of work is very difficult to reform, Danaher concludes that we should embrace the economic liberation that autonomous and intelligent technologies may provide. After these discussions of automation and work in the first part of the book, Danaher turns his attention to what he sees as the next significant human project: creating a world in which humans can thrive when they no longer need to work for economic benefit. Danaher presents two possible worlds: a cyborg utopia, in which we merge with technology to upgrade ourselves and maintain our cognitive evolutionary niche; and a virtual utopia, in which we retreat from our cognitive dominance and cultivate crafts through games.

Danaher makes many careful moves in this book, and it is worth following his argument and thought experiment all the way through—even as one's disagreements may mount. One can be skeptical about the absolute automation of work, pointing to work that requires

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such things as creativity, care, curiosity, and contemplation. But the advancing automation of tasks will likely create more unemployment and greater inequities. In his 1952 novel *Player Piano*, Kurt Vonnegut imagined a dystopia in which society is divided between an elite wealthy group, mostly engineers and managers, and everyone else, the “Reeks and Wrecks” who are part of a work creation program called the Reconstruction and Reclamation Corps. As dehumanizing as Vonnegut’s dystopia is for everyone in it, we see something worse emerging now in the widening gap between highly compensated technology workers and gig or “ghost” workers, who perform low-skilled tasks to make technology work better. When these tasks are automated, what will this “surplus population” do? Will they end up on the streets of our high-tech cities with others who have already been displaced?

One may want to reform rather than reject contemporary capitalism, perhaps exploring a corrective Protestant work ethic as Kathryn Tanner does in *Christianity and the New Spirit of Capitalism* (Yale, 2019). But what would happen if economic precariousness were to become less of a driving motivation for work? Would we, as Dorothy Sayers imagined in her 1942 lecture “Why Work?,” come to view and engage in work as a creative activity pursued for the love of the work itself? Whatever we believe about the possible extent of automation and the future of capitalism, Danaher raises important issues for anyone interested in the future of work.

As for creating a better world, I hope that no one objects to this pursuit. If the digital transformation of our present world is a descriptive reality and not merely a prospective possibility, as Luciano Floridi argues in *The Fourth Revolution: How the Infosphere Is Reshaping Reality* (Oxford, 2014), then how will we continue to shape the world we’ve been digitally enhancing for over half a century? Danaher’s rehabilitation of the concept of utopianism is helpful: rather than a rigid plan (a “blueprint,” which can lead to violence and inertia), he defines utopia as a range of possibilities that are practical but also radical improvements (a “horizon”). Before presenting two utopian scenarios, Danaher develops a useful “utopian scorecard,” which evaluates utopias against the problems of automation (such as attention, autonomy, and agency) and the dangers of blueprint utopianism.

The cyborg utopia, in which we have been living for some time—conceptually (extending our minds through artifacts) and technically (with medical implants)—is the conservative option. This is its strength and weakness, since it conserves both what we value (our superior intellectual agency) and what we do not (for example, social inequities). This utopia could therefore

become a dystopia, and Danaher concludes it is not the utopia we are looking for.

The best possible world Danaher imagines is a virtual utopia. “Virtual” is not reducible to life inside a computer-generated environment; humans have been living in complex virtual or artificial environments, such as societies and cities, for many millennia. To these we have added digital simulations, which are still real in the impacts they have on us and others. More radical than the vision of a virtual utopia is Danaher’s proposal of what we will do in these physical and digital virtual environments. The virtual utopia is a utopia of games—we will play games that we understand (so there is no coercion), we will play for “trivial or relatively inconsequential stakes” (because all the important work will be done by artificial agents), and we will cultivate abilities and virtues through the games we select and create (p. 229).

This is a retreat of sorts, as it involves severance from knowledge about, and surrender of control in, the Roboscene. But, for Danaher, the gains outweigh the losses: human attention, autonomy, agency, and other important values will be preserved as people think, plan, decide, create, interact, and realize “ever higher degrees of achievement” (p. 236). These highest achievements include the cultivation of craft, a dedication “to good work for its own sake” (p. 239). Games, Danaher concludes, “could be enough to sustain meaning and flourishing” and “would represent a significant societal improvement” (pp. 245, 251).

I explained Danaher’s argument to my daughter during her recent visit home from college, where she is studying philosophy, politics, and economics. We discussed some of the questions left unanswered in *Automation and Utopia*. How would we create a moral community that could construct and sustain a virtual (or any other) utopia? Would we really, after centuries of unfilled promises, finally realize the end of penury through science and technology? And if we did, what would motivate us to pursue a good life for all? Our dissatisfaction with a future full of games may have been influenced by the family game night gone wrong the previous evening, due to various human failures, and we ended up discussing work from the perspective of practical theology—i.e., examining present and prospective social conditions of work in relation to Christian tradition.

Danaher emphasizes the value of processes (*energia*) over end states (*kinesis*), but we were skeptical about the satisfaction of “purely procedural goods” (p. 238). Not only would a virtual utopia cut us off from more direct engagement with the world and significant goods such as knowledge of it, but we would have little or

no instrumental value. For Christians, who believe that creation mediates knowledge of God and that we are cocreators with God in the transformation of the world, living life as a mere game would be a form of hell.

In an epilogue titled “The Unending Quest,” Danaher describes Jorge Luis Borges’s short story “The Library of Babel” as a “meditation on the meaning of life in a universe of infinite possibilities” (p. 271). Our current situation, he suggests, is analogous to that of the denizens who search Borges’s fictional library for meaningful books among every possible book. Their quest is futile, for their world is an antilibRARY—a repository of mostly meaningless and misleading books. Danaher concludes: “We shouldn’t keep searching through the infinite darkness for something we ourselves can never obtain; we shouldn’t sacrifice everything else that is good in life for an unending, and unrealizable, goal” (p. 273). But what if the world is more like a library, presenting us with information? And what if our encounter with that information transforms us? And, finally, what if the telos of our quest not only matters as a transformative process but is also an end state that is already being realized through our ongoing transformation? This would cause a Christian, formed by the past, future, and present coming of Christ, to be wary of desiring or designing a utopia so far removed from the created world.

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## TRANSHUMANISM

**HUMANS 2.0: Scientific, Philosophical, and Theological Perspectives on Transhumanism** by Fazale R. Rana with Kenneth R. Samples. Covina, CA: Reasons to Believe Press, 2019. 306 pages. Paperback; \$19.95. ISBN: 9781886653122.

Biochemist Fazale Rana and philosopher-theologian Kenneth Richard Samples work together to provide a scientific and theological account of advances related to transhumanism. Their book contains three unequal sections: one on the science of human enhancement (about 110 pages), one on the ethics of human enhancement (about 65 pages), and one on transhumanism and Christianity (about 35 pages). They conclude the book with special foci on AI and artificial wombs, and a primer on molecular biology for those with limited scientific background. Throughout the work, Rana and Samples recount storylines from the *Iron Man* comic book storyline to illustrate the involved issues.

The book achieves several worthy goals well. First, the breadth of engagement helps readers connect scientific

advance with secular and transhuman philosophy and biblical Christianity. Second, the initial section provides competent detail on the science involved, while at the same time acknowledging how quickly science develops. The authors provide enough of a foundation that readers will be able to apply the relevant principles even as science continues to develop. (For instance, the CRISPR-Cas9 chapter includes nothing about recent developments, but the reader can connect the dots.) Third, the book makes a good argument for how particular scientific developments fit into and move toward a transhumanist agenda. There is no one location where this argument is made absolutely clear, but it is implied and stressed at various points that together make the case stronger.

However, the book’s strengths are uneven and its overall impact weakened in a few key ways. First and foremost, the second two parts—handling ethics and transhumanism and Christianity—do not rise to the level of detail and sophisticated argument that the first part does. It left me with the vague sense that science is hard and complicated; ethics and the Bible are easy and straightforward. The authors, of course, say no such thing, but the level of engagement, research, and arguments gives that sense. (In particular, several of the ethical and biblical chapters are conspicuously short; this may leave the impression that there is not much to say on these topics.) Frankly, the answers provided in those sections will introduce readers to important key concepts, but they will fall a bit flat for anyone beyond a beginner’s level, and they certainly won’t convince skeptics that Christianity has much to contribute.

Second, the authors make unfortunate compromises and unhelpful proposals. For instance, they support somatic cell gene editing for human enhancement (p. 187), stating that it must, of course, be “limited,” but they provide nothing substantive to handle such limiting. Who limits? By whose judgment? How? When? Further, their advice for Christians assumes that believers will retain a high degree of cultural influence and power, which they can use to “point out” various inconsistencies to transhumanists. The role of the Christian in this whole enterprise basically boils down to occasionally piping up and “pointing out” potential challenges. I cannot help but wonder whether Christian witness might be relegated to the margins, margins which could potentially involve suffering, but which would not “point out” things to rich, smart people in white coats.

In the end, I want to like the book, and I would recommend it. I guess by that I mean I am sympathetic with the project, and enough of it is done well to make this worth a read. The scientific explanations and descriptions themselves are worth the modest price of the



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book. But I would encourage any reader to view the ethical and theological sections as starting points, just as inspiring by their incompleteness as for the content they do provide.

This book serves as a good introduction to scientific advance, the challenges that are already here and coming, and the way those challenges will be escalated and co-opted by various late modern and postmodern worldviews. We need more Christians knowledgeable about these issues, engaging the ethical and theological material as seriously as they do the scientific.

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