Education

TRACING THE LINES: Spiritual Exercise and the Gesture of Christian Scholarship by Robert Sweetman. Eugene, OR: Wipf & Stock, 2016. 177 pages. Paperback; $24.00. ISBN: 9781498296816.

I was recently in conversation with a faculty member at a conservative Christian school, and the topic drifted briefly to medieval Christianity. Somewhat out of the blue, my conversation partner interjected a question apparently designed to check whether I agreed that Aquinas was wrong about the relationship between faith and reason, although we had been discussing neither that theologian nor that topic. It seemed symptomatic of the tendency in some Christian circles to turn metadiscussions about the nature of knowledge into theological or ideological touchstones designed to help keep the boundaries clear and well patrolled and the barbarians at bay.

Robert Sweetman's new book on the nature of Christian scholarship takes a contrasting tack. Sweetman argues that various models of faith and learning—what he refers to as complementarist, integrationist, and holistic accounts—should all be seen as seeking to account for the "intrinsic Christian unity or integrality of scholarship across the disciplines" (p. 7). Each model emerges from a specific time with specific historical constraints and resources. Sweetman suggests that it may be helpful to view them less as candidates in a quest for the one true grail, and more as folk recipes, variant ways of cooking broadly the same dish but with different cooks and kitchens, some ingredients varying with the season and the local landscape. Christian scholarship becomes less like building border walls and more like making salsa.

Stated so briefly and starkly, this might sound to some like a lazy invitation to live and let live, or a dangerous dereliction of duty where truth is at stake. Such an impression would seriously underestimate the book, however, as at least three features of the argument suggest.

First, it is clear throughout that accepting historically located variation does not mean giving up on critique or on the concrete contribution of Christian commitment to careful scholarly delineation. Sweetman helpfully probes some key strengths and weaknesses of each model, including the holistic model that he himself confesses as his intellectual kitchen. Each approach, he suggests, is worthy of serious engagement as an attempt at fidelity, and each answers the needs of a particular time and place. Yet each also carries risks and shortcomings that resist the notion that it is a final solution. There is still good and bad salsa, even if more than one variety might be deemed a success.

Second, an important thread running through the argument is Sweetman's allegation that current accounts of the relationship of faith to learning tend to share, regardless of their preferred model, underlying Aristotelian assumptions regarding the nature of difference. Scholarship is assumed to be a genus of human activity with *Christian* scholarship one of its specific kinds, which must then be identified in terms of its specific and stable differences over against other kinds. This assumption creates the twin embarrassments of struggling both to constrain and affirm the degree of meaning shared with others in claims made about the world, and to identify actual differences in how Christian scholarship works. Sweetman suggests that a more helpful approach would focus on the ways the practice of scholarship is "attuned" to a Christian "heart" and contributes to tending that heart (pp. 155–56). What is offered is a kind of philosophical spirituality of scholarship in place of a mere difference calculus. This approach explicitly pushes back against the impulse to make the world of scholarship safe for faith by creating definitive ramparts to inscribe securely the boundaries of difference. There must still be conceptual determination, the ability to articulate carefully the traces connecting the Christian heart and scholarly judgment, but this determination will not be for the purposes of final demarcation. There is an inherent uncertainty as to exactly where the process will lead that is congruent with humility, openness to learning from others and from creation, and wisdom seeking.

Third, while the book advocates for a more irenic scholarship of the Christian heart, it does so, not through an anecdotal easing of the task of scholarly exactitude, but through careful and precise philosophical and historical argument. Indeed, this is true to a degree that might make this book less appealing to some faculty as an introduction to thinking about faith and scholarship, as compared to some of the volumes commonly used in faculty development. I suspect the book will be more accessible to liberal arts faculty than to those in scientific, technical, and professional disciplines, given the nature of its tools and narrative. The reader will need patience while working carefully through episodes in the history of Christian philosophy (unsurprisingly, since that is the disciplinary expertise that Sweetman brings to the conversation). The book leads the reader through thoughtful analyses of Justin Martyr, Augustine, Bonaventure, Gilson, John Paul II, Plantinga, Marsden, Dooyeweerd, and Runner. These are then located in the secularization of the medieval academy, the rise of ideology in the nineteenth century, and in twentieth-century efforts to critique secular society, allowing us to see some of the needs feeding theoretical choices.

This book is not a light or casual read. It is, however, a very helpful read. It is not long, and its careful and persuasive argument is both important and encouraging, especially to anyone for whom the idea of "creative

fidelity" holds any appeal. I hope that it is widely and thoughtfully engaged, and I recommend it warmly to any reader wishing to think carefully about the relationship between faith and learning.

Reviewed by David I. Smith, Professor of Education, Calvin College, Grand Rapids, MI 49546.

History of Science

SCIENCE AND RELIGION: A Historical Introduction, 2nd ed. by Gary B. Ferngren, ed. Baltimore, MD: Johns Hopkins University Press, 2017. 484 pages. Paperback; $32.95. ISBN: 9781421421728.

What can one truthfully say about the second edition of a book? To say that the number of chapters remain the same (30) would be a triviality. Or to say that the price has increased by $13 would be an obvious no-brainer. But, to say that the quality of the second edition has improved rather dramatically is worth exploring. Gary Ferngren, Professor of History at Oregon State University and a professor of the history of medicine at First Moscow State Medical University, has been compiling history of science and religion, medicine and religion readers for a number of years. The first edition of *Science and Religion: A Historical Introduction* (2002) was given a short review in *PSCF* 56, no. 1 (2004): 62–63. A snippet of Fraser Fleming's laudatory review is on the flyleaf of this newer edition.

Of the many introductory books on the topic of science and religion, Ferngren's *Science and Religion* set a standard. The first edition was a shortened version (selected entries) of the much longer *The History of Science and Religion in the Western Tradition: An Encyclopedia* (New York: Garland, 2000). Contributions by leading scholars, such as John H. Brooke, Ronald Numbers, David Lindberg, James Moore, Nicholaas A. Rupke, David Livingstone, among others, gave the book an authoritative voice and thus it served as an extremely attractive choice for instructors teaching undergraduate courses on science and religion. This new edition will certainly play a similar role.

This second edition is more expansive and more in tune with contemporary discussions. The book has a short introduction by Ferngren, stating that the purpose of the volume is "to provide a comprehensive survey of the historical relationship of the Western religious traditions with science from Aristotle to the early twenty-first century" (p. xii). Ferngren also widens the field of discussion to include various other non-Christian traditions, which have gained influence in the West, by adding chapters on Judaism, Asian traditions, and even atheism. This edition also has a revised and updated chapter on premodern Islam. In short, there are a number of chapters retained from the first edition that have been updated in content and given a new bibliography. There are eleven new chapters to whet one's appetite, a number of them in the social sciences. Consequently, some chapters in the first edition were excised or retired. For example, chapters by Colin Russell on the conflict of science and religion and David Wilson on the historiography of science and religion have been dropped. Margaret Osler's chapter on mechanical philosophy and Ronald Numbers's on scientific creationism have also been excised. Interestingly, the chapter by William Dembski on intelligent design has also disappeared.

The book has six parts: Part I (one chapter): Science and Religion: Conflict or Complexity; Part II (four chapters): The Premodern Period; Part III (five chapters): The Scientific Revolution; Part IV (five chapters): Transformations in Geology, Biology, and Cosmology, 1650–1900; Part V (seven chapters): The Response of Religious Traditions; and Part VI (eight chapters): The Theological Implications of Modern Science. Part VI contains many of the new chapters, written by some new and younger contributors: "Causation" by Mariusz Tabaczek and John Henry, "The Modern Synthesis in Evolution" by Joshua M. Moritz, "Anthropology" by Timothy Larsen, "American Psychology" by Matthew S. Hedstrom, and "Neuroscience and the Human Person" by Alan C. Weissenbacher. Earlier parts of the book have chapters authored by newer voices as well, for example, "Isaac Newton" by Stephen D. Snobelen. Part III includes a revised chapter, "Early Modern Protestantism," written by Edward B. Davis.

It would take too much space to review each chapter. A brief word about the first chapter will suffice. The introductory essay in Part I by Shephen P. Weldon provides a good synthesis of the current state of discussion of science/religion issues, common among historians of science. In particular, he argues that discussions or debates surrounding the conflict, harmony, and separateness of science and religion rely too heavily on essentialist definitions of science and religion. Weldon maintains that we need a more nuanced appreciation of the complexity of this relationship. Any historical account that retains a form of essentialism, in which the quality and character of science and religion do not change over time and context, needs to be abandoned.

For Weldon this history is by and large "a modern western story" (p. 5). I found it disconcerting to read that Weldon considers it "problematic to call Buddhism or Confucianism a religion" (p. 5). Is religion only a western phenomenon? Could this position come from our penchant to equate religion with certain practices, rituals, institutions, social networks, or even with theological propositions and statements? That religion as practiced takes on nuances due to social and intellectual factors is historically viable. But religion, in my opinion, bores much deeper. Religion is our total response to a call outside ourselves. Being open to God's revela-

tion is, in the first place, a defining mark of our human response to God's loving address. It is a universal mark, "essential," one could say. As Charles A. Coulson once expressed it: "Religion is the total response of man to all his environment." Consequently, religion is not irrelevant to, or in conflict with, or complementary to, or simply an influence on, science, but rather the very ground of scientific practice.

For those who wish to get a good overview of the present status of science and religion as viewed by contemporary historians of science, this is a good book. It could also serve as an intellectually challenging introduction for undergraduates in a science/religion course. Whether it will satisfy historians of religion is another question. Nevertheless, we should take Weldon's encouragement to heart, namely that we "remain open to finding ways to talk about what we broadly and imprecisely call 'the history of science and religion'" (p. 16).

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Origins

EVOLUTION: Still a Theory in Crisis by Michael Denton. Seattle, WA: Discovery Institute Press, 2016. 354 pages. Paperback; $24.95. ISBN: 1936599325.

The genius of Darwin's *The Origin of Species* was that it provided a simple and elegant mechanism to account for the great diversity of life observed in the natural world. The textbook picture is that normal miniscule genetic variations in a population, when they confer reproductive advantage, are passed on to offspring and carried through the generations. The accumulation of these miniscule adaptations over extreme spans of time eventually leads to divergence of populations into distinct and reproductively isolated species that occupy their own ecological niches. Thus, the core of a Darwinian view is that features are only passed along through the generations if they confer reproductive advantages, and if the process leading to the genesis of distinct species is slow.

Michael Denton's recent book, *Evolution: Still a Theory in Crisis*, provides an extended argument against an extreme interpretation of Darwinian evolution in which all biological features must result from gradual adaptation driven by natural selection. His argument has two prongs: (1) that certain biological features cannot be explained by adaptation (i.e., there are features in animal biology that are apparently nonadaptive) and are thereby hidden from the process of natural selection; and (2) that many features that define distinct groups and species appear to have arisen either suddenly or without any conceivable step-wise process. Although he agrees with the power of natural selection to drive microevolution (evolution occurring within the boundaries of a species), his argument is that it is insufficient to account for macroevolution (evolution that jumps boundaries, leading to novel clades and species).

In the introduction, Denton frames his argument by contrasting "functionalist" and "structuralist" visions for biology. In functionalism, adaptation to serve a particular function is the primary driver of biological organization, while for a structuralist paradigm, the structures themselves are not the result of an adaptive process, although adaptation can occur on top of foundational biological structures. Denton is firmly in the structuralist camp and argues that the features that differentiate one biological group from another cannot have arisen by a gradual process of natural selection. The first several chapters draw on contemporary biological perspectives as well as on older writing to defend this perspective, and to lay this the groundwork for the rest of the book.

A series of chapters called "Bridging Gaps" provides in-depth examples of biological structures that Denton argues cannot conceivably have arisen via a gradual adaptive process. One of these is the nearly ubiquitous five-fingered structure of tetrapod limbs, a feature shared by humans, whales, and bats but used for quite different behaviors by each (i.e., grasping, swimming, or flying). He argues that while adaptations have occurred in the context of this structure to allow humans, whales, and bats to employ their five-fingered limbs for starkly different behaviors, the plan itself appears to confer no special advantage. That same structure is used for quite different functions, indicating that the foundational structure itself could not have been the result of a gradual process of adaptation but must have instead arisen relatively suddenly by nonadaptive mechanisms. In other chapters, Denton provides similarly in-depth descriptions of other examples such as feathers, flowering plants, the enucleated red blood cell, bat wings, and language.

If not by a gradual process of adaptation, how did these structures arise? Denton seeks to address this question in the final chapters by arguing that rather than being the outcome of adaptation, these features and the biological order that they reflect have arisen due to the immutable laws of biology. Foundational structures, "taxa-defining novelties," have emerged from the self-organizing properties of biological matter rather than from variation and natural selection. Supporting this, he points to biological features such as the structure of cells, biomechanical influences affecting embryogenesis, and protein folding. Many readers will hear echoes of the "fine-tuned universe" and "anthropic principle" that are often employed to suggest that nature has favored the development of carbon-based and conscious life, although Denton uses this biological law perspective to explain features of life on Earth, rather than the existence of life.

My major critiques do not so much concern the details of Denton's book, although indeed, those details are worth puzzling over. Rather, in many ways, elements of Denton's approach and arguments contain echoes of other authors residing within the scientific mainstream who have described the importance of nonadaptationist and nongradualist evolutionary processes, such as Eldredge and Gould's "punctuated equilibrium" and Gould and Lewentin's "spandrels" papers. Rather than constituting a "crisis" for a Darwinian model of evolution, these additional mechanisms highlight that absolutism in any extreme (such as for an absolutist Darwinian framework) is unlikely to be convincing. In a 1997 essay, for example, Gould suggested a middle ground, in which we can recognize that a variety of mechanisms—such as natural selection, punctuated equilibrium, developmental constraints, chance, neutralism, genetic drift, and natural catastrophes—might be operating simultaneously and to varying extents to drive evolution (S. J. Gould, "Darwinian Fundamentalism," *The New York Review of Books*; June 12, 1997). And indeed, as Gould points out by quoting Darwin, even Darwin himself objected to an ultra-Darwinian vision:

> I placed in a most conspicuous position—namely, at the close of the Introduction—the following words: "I am convinced that natural selection has been the main but not the exclusive means of modification." This has been of no avail. Great is the power of steady misrepresentation.

Thus, Denton seems to protest against a Darwinian absolutism not even held by Darwin. Given the multiplicity of evolutionary mechanisms probably operating in tandem with a Darwinian mechanism (a thoroughly mainstream view), it seems an overstatement to name the evolving scientific picture a "crisis." Moreover, it is not clear why the book is entitled *Evolution: Still a Theory in Crisis*. Denton's book is not a critique of evolution per se (descent with modification), but rather what he perceives as a widespread Darwinian absolutism (p. 111). Oddly, since he laments that this exact linguistic fuzziness appeared in his prior book, *Evolution: A Theory in Crisis* (1985), it is unclear why it persists in the current book.

Denton's book is not an easy read. I found his writing to be dense and quite technical at points. However, summaries at the end of each chapter help frame the major arguments and the book's central thesis. Still, reading it would be a substantial undertaking for the lay reader. Despite the above points and the sometimes overblown rhetoric about the "Darwin propaganda machine" (p. 88) and the "corpse of Darwinian evolution" (p. 225), Denton's book made me think hard and delve more deeply into some of the nuances of evolutionary mechanisms that might have generated such a diversity of biological structure and function. It is likely that laws of biological form, random chance, genetic drift, punctuated equilibrium, and Darwinian adaptation may all have roles to play.

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Science and Religion

DICTIONARY OF CHRISTIANITY AND SCIENCE: The Definitive Reference for the Intersection of Christian Faith and Contemporary Science by Paul Copan, Tremper Longman III, Christopher L. Reese, and Michael G. Strauss, eds. Grand Rapids, MI: Zondervan, 2017. 691 pages. Hardcover; $59.99. ISBN: 9780310496052.

The *Dictionary of Christianity and Science* brings together Christian scholars to help explain the significant theories, issues, and individuals essential to the discussion of science and the Christian faith. Like other scholarly dictionaries or encyclopedias, it provides brief entries that succinctly explain each concept or issue. These entries represent a wide range of topics, from the philosophical to the scientific to the biblical and theological. The purpose is to provide a resource to help readers engage the issues related to science and faith.

A strength of this volume is in the way it provides clear, concise explanations of difficult and often complex issues. Through the use of cross references and recommended reading, the authors help readers understand the main ideas being discussed. In this way, the volume is easy to use and very readable.

Another strength is the way controversial issues are presented. For example, there are two entries that deal with climate change—one that interprets the scientific data to suggest that humans are having a significant impact on changing climate, and the second arguing that humans are not. Both address the issue biblically and scientifically while coming to different conclusions. A second example is the discussion of the days in Genesis. There are two entries that present the most basic views of Genesis 1: the days as literal 24-hour periods of time, and the framework approach. Both make their case well, demonstrating the advantages and disadvantages of each perspective. A third entry focuses on a basic explanation of a variety of ways Christians have interpreted the days in Genesis 1, providing a brief overview of each approach.

A weakness of this volume is what is missing, which betrays a more conservative evangelical bias. The entry on the various interpretations of Genesis 1, for example, does not include a mythological reading that grounds the interpretation of the text in the ancient cosmology of the Israelites and in the creation stories of the ancient world. Another example is the entry on death, which does not discuss the possibility of seeing physical death

as a part of God's good creation. The author differentiates between physical and spiritual death but makes the theological assumption that physical death is always a result of sin. There are Christians who challenge this perspective, and recognizing this—even if the author disagrees—would seem to fit the purpose of this volume. Finally, there are important figures missing that would fill out the spectrum of theological perspectives. For example, there is no entry for Pierre Teilhard de Chardin, whose work has influenced scholars such as Ilia Delio to creatively explore the connections between incarnation and evolution. There is also no entry for Elizabeth Johnson, who brings a feminist hermeneutic to bear on ecological issues in her recent work *Ask the Beasts: Darwin and the Love of God*. While one might respond by pointing out the impossibility of including everything in one volume, which I recognize, there seems to be a glaring omission of Christian scholars who are pursuing what might be considered a more progressive approach to questions related to science and faith. Regardless of the target audience, any volume that uses the word "definitive" in the subtitle needs to include individuals and ideas that represent the broad spectrum of perspectives.

The authors in this volume represent a variety of conservative theological traditions and perspectives that correlate with the variety of beliefs that evangelical Christians tend to hold. Laudably, this volume represents a constructive example of dialogue that allows the reader to better understand why Christians hold particular beliefs, which makes it an important contribution to the discussion.

The *Dictionary of Christianity and Science* is an excellent resource for students, pastors, teachers, and anyone interested in learning more about issues related to Christian faith and science.

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RIGHTING AMERICA AT THE CREATION MUSEUM by Susan L. Trollinger and William Vance Trollinger Jr. Baltimore, MD: Johns Hopkins University Press, 2016. 327 pages. Hardcover; $26.95. ISBN: 9781421419510.

Answers in Genesis (AiG) opened its much-anticipated, 27-million-dollar Creation Museum in rural northern Kentucky at the end of May 2007, drawing more than half a million people in the first sixteen months and more than three million in the first ten years. Those are impressive numbers. By comparison, the nearby Cincinnati Museum Center, located in the heart of a major Midwestern city, covering a much larger range of subjects in three separate museums, boasting an OMNIMAX theater, and targeting a much broader demographic than just conservative Protestants, had about 1.45 million visitors in 2015. With 20% as much traffic as its much larger secular neighbor, AiG's museum has proved to be a commercial success. Like the YEC ideas that it embodies, the Creation Museum is here to stay.

One reason for this is the high production values evident throughout. I saw this for myself, when I visited the Museum scarcely more than three months after it opened. Terry Mortenson of AiG kindly gave me a tour of the operation behind the scenes afterwards, but mostly I walked through the exhibits unaccompanied, attended a well-organized presentation by astronomer Jason Lisle in the technically impressive planetarium, and formed my own conclusions about the methods and the message of the Creation Museum. What struck me most is the way in which visitors are shown the YEC view and evolution as separate but equal sets of assumptions, with the scientific evidence impotent to determine which approach actually provides a better explanation. That is best seen in the Dinosaur Dig Site, a big sand box in which two paleontologists, one secular and one a creationist, uncover the same bones with the same techniques but draw very different conclusions about the implications.

As with many other cultural phenomena of comparable impact, the Creation Museum has attracted significant attention from scholars in a variety of disciplines, but to the best of my knowledge this is the first full-length scholarly book about it. The authors are devout Roman Catholic professors from the University of Dayton, rhetorician Susan L. Trollinger and historian William (Bill) Vance Trollinger Jr. A former colleague of mine at Messiah College, Bill Trollinger has written extensively on fundamentalism, including a book about William Bell Riley, a Baptist minister from the Twin Cities who founded the World Christian Fundamentals Association, an organization that combatted evolution after the Great War. (Riley was the person who persuaded William Jennings Bryan to assist the prosecution at the Scopes trial.) Susan Trollinger is best known for her book, *Selling the Amish*. Between them, the Trollingers bring expertise in anti-evolutionism and visual rhetoric to bear on the Creation Museum. *Righting America at the Creation Museum* combines analysis of the museum as a visual argument with analysis of the ideas on display, giving readers a broad and sometimes deep understanding of creationism as a phenomenon.

I entirely agree with their central thesis:

> the museum exists and thrives … because it represents and speaks to the religious and political commitments of a large swath of the American population, [seeking to] arm millions of American Christians as uncompromising and fearless warriors for what it understands to be the ongoing culture war in America. (p. 2)

The key words are "uncompromising" and "culture war," core aspects of young-earth creationism that are well documented in the book.

The Trollingers describe the Creation Museum, a long-time dream of Ken Ham, as the "crown jewel of the AiG apologetics enterprise" that shows Christians how to understand our role in the highly secular modern world (p. 13). It may come as a surprise to learn that the primary message of the museum is not actually about the age of the Earth or evolution per se, but the need to preach a particular version of the gospel to unbelievers. What is that gospel? The authors answer this by examining the 16-minute film, *The Last Adam*, which visitors view right at the end of the Bible Walkthrough Experience that contains most of the exhibits. They find that "only thirty-two seconds are devoted to Jesus's ministry and teachings," while "three minutes and forty-five seconds are given to his flogging and execution." The brief portion about his ministry includes the statement that Jesus "preached good news to the poor, and told the people that the Kingdom of God was at hand." As the authors point out, the film does not spell out "what 'good news' was given to those in poverty," or "what Jesus meant by the 'Kingdom of God.'" Viewers are left to speculate, and the Trollingers suggest that, "perhaps viewers are to infer" that the poor "will suffer on Earth" but "eventually end up in Heaven," and that the Kingdom of God refers to "the afterlife."

In their opinion, viewers "learn that Jesus performed miracles but apparently had nothing to teach us about how we should live our lives." They also note that a further "one minute, thirty-five seconds" is devoted to "an extrabiblical story about the youthful Mary and her family viewing the annual sacrifice of a lamb. Given the commitment to the inerrant word of God, it might seem strange to forego all the available material on the life of Jesus" in the four gospels "for a story that does not actually appear in the Bible" (p. 105).

In short, the film depicts Jesus almost solely as the Lamb of God, not the bringer of good news to the poor, and Jesus is a relatively minor player elsewhere in the museum. He is infrequently quoted, and the traditional Christian message of love and grace is not emphasized. Rather, "the essential continuity presented" at the museum is this: "God gives the Word; humans disobey it; God is obliged to punish them" (p. 49). The present world simply reiterates the sins of the past, and the whole museum presents this gospel as rooted in the true history found in the literal Bible.

What about science? The authors explain the standard creationist distinction between historical (subjective) science versus observational (objective) science. Creationists employ this to keep the conclusions of natural history from refuting their interpretation of Genesis, but the authors apply it cleverly to critique some of the pro-YEC information on display in the Museum. For example, the room devoted to Flood Geology features some facts from observational science about the deposition of detritus by river floods, using "a small catastrophe in the present … as a mini-analogy for a global one in the distant past." Is that analogy valid, given that "the very first placard visitors encounter" in that room *denies* Charles Lyell's dictum that the present is the key to the past? (pp. 90–91). It is a very good question.

The museum certainly emphasizes the primacy of the Bible, a classic Protestant theme, yet it also promotes a narrow biblicism that bears little resemblance to the Reformation idea of *sola Scriptura*. Indeed, Ham's organization places the Bible above all other sources of knowledge, often to the point of denying their legitimacy in the name of the alleged "plain reading" of a given biblical text. According to AiG's Statement of Faith (https://answersingenesis.org/about/faith/),

> By definition, no apparent, perceived or claimed evidence in any field, including history and chronology, can be valid if it contradicts the scriptural record. Of primary importance is the fact that evidence is always subject to interpretation by fallible people who do not possess all information.

However, citing Alister E. McGrath's book, *Christianity's Dangerous Idea* (2008), the Trollingers point out that the Reformation actually "yielded an endless variety of theologies and practices," in spite of Martin Luther's rock bottom belief that the Bible speaks clearly to all who read it. Each group claims to have "the true word of God," but "none has been able to control the proliferation of its meaning." Nevertheless, "this has not stopped efforts to arrest the flow of interpretations, to freeze for all time the One True Interpretation. Enter young Earth creationism, and the Creation Museum" (p.111). Ham and his Museum "cannot acknowledge they are presenting an interpretation, nor can they consider the possibility that other interpretations—including other conservative Protestant interpretations—of Genesis might be correct" (p. 136).

I resonate with this conclusion. AiG and their museum are about providing answers for hard questions to very conservative Christians. The answers they offer can be authoritative for their audience only if *all other answers*, based on different interpretations of the Bible, are illegitimate. Otherwise, their cultural agenda collapses like a house of cards. The Trollingers fully understand this.

> At the heart of the Creation Museum is a radical binary in which the visitor is confronted with two sets of tightly linked terms that are unequivocally opposed to each other, Bible-young Earth-Eden-truth-heaven versus human reason-evolution and old Earth-sin-corruption-hell. (p. 149)

They also understand the significance of this rhetorical strategy: "The binary is cosmic. The stakes could not be higher." We find "no space for dissent, not even from fellow Christians" in this "culture war with eter-

nal implications." All dissenters are "the opponents of Truth. They are the Enemy" (p. 149).

The museum sends this message primarily through fear. Visitors pass through rooms called *Graffiti Alley*, where headlines show "how society has gone awry in our world after the Bible lost its place in the public square," and *Culture in Crisis*, about the disintegration of families and churches as a result of accepting "millions of years" of Earth history. Welcome to culture wars. We have "The Answer" for you: throw modern science in the garbage and go back to the Bible, even if it means that Cain found a wife by incestuously marrying a sister or another close relative, as the museum tells us on "a large placard entitled, 'Where Did Cain Get His Wife?'" I have to agree with the Trollingers: "Even in the context of the Creation Museum, this is one strange placard" (p. 177).

While I usually agree with the authors' analyses and conclusions, at one point their language might unintentionally mislead readers about an important aspect of the Galileo affair. Immediately after a paragraph containing a brief summary of the Galileo affair, they ask,

> So what was the biblical cosmology that Copernicus and Galileo were contradicting? Put simply it was the cosmology of ancient Near Eastern cultures … [which] consisted of a three-tiered universe with the Earth in the middle, the heavens above, and the "netherworld" below. (p. 103)

I agree that the biblical authors accepted the ANE world picture, but Catholic officials of Galileo's time did not. The three-tiered universe was irrelevant to his collision with Rome. The contested issue involved moving the spherical Earth around the Sun, not denying that the Sun passes under the flat, disc-shaped Earth every night. The authors understand this, but some readers might draw the wrong conclusion—as I did myself, before corresponding with them about it.

At the same time, the authors properly point out that the museum actually treats the solar system as if it—rather than the three-tiered universe—were the true biblical view. The visitor looks in vain for any depiction of the actual cosmology of the biblical authors. Thus, at least in this instance, modern science takes precedence over a literal Bible! When it comes to astronomy, the museum's science is not "the Bible's science" (p. 105). Here we find one of the most important conclusions in the whole book.

I also partly dissent from the way in which the authors narrate the rise of the Christian right in America—a theme directly related to the title of their book—particularly in relation to racism. They acknowledge that Ham and his museum unambiguously oppose racism and blame evolution for advancing it. They also see that particular stance as somewhat out of step with the otherwise (in their view) very conservative political stance of the rest of the museum. So far, so good. However, in the context of their larger narrative, they seem to imply that Ham's opposition to racism is just trendy, part of a relatively recent change of heart among American evangelicals, who increasingly disown racial prejudice. They also endorse Randall Balmer's questionable view

> that the origins of the Christian Right are not to be found in *Roe versus Wade*, but in the anger over the Internal Revenue Service's efforts to remove tax-exempt status from Christian schools that discriminated on the basis of race. (p. 187)

Yes, some segregationists used religion in their cause, but there was much more to that story than the authors indicate. Many other Christians totally opposed to segregation were concerned about the possibility of inappropriate government intrusion into other religious beliefs unrelated to racial prejudice, simply on the basis that they were inconsistent with public policy. This book gives readers the impression that the religious right is all about defending racism, as if Francis Schaeffer had never written *How Should We Then Live?* (1976), a powerful proclamation of the dangers posed to human dignity by abortion and dehumanization that galvanized evangelicals to political action.

In fact, Ham's longstanding opposition to those who use the Bible or science to support racism is a matter of public record—for which I applaud him. He deserves more credit than this book gives him. For example, in the pamphlet, "Where Did the 'Races' Come From?" (1999), Ken Ham, Carl Wieland, and Don Batten state predictably that "Darwinian evolution was (and still is) inherently a racist philosophy" (p. 2), but they also draw on science and the Bible to contest traditional creationist teachings about human "races." Quoting a paper given at the American Association for the Advancement of Science, they affirm, "Race is a social construct derived mainly from perceptions conditioned by events of recorded history, and it has no basic biological reality." Since the Bible "describe[s] all human beings as being of 'one blood'" (Acts 17:26), we are all related as "descendants of the first man Adam" (1 Cor. 15:45), so Christ died for all of us (pp. 3, 5). All three authors were born in Australia, which certainly has a sordid history of its own relative to racism, especially with regard to the indigenous population. Perhaps with some irony, they note that "a significant number" of American Christians believe that so-called "'inter-racial marriages' violate God's principles in the Bible," but they decisively reject that teaching. They also deny the related view, preached by the late Jerry Falwell (among many others) and found historically among some Jews and Muslims as well, that "the skin color of black people is a result of a curse on Ham and his descendants" (pp. 31, 40).

Nevertheless, the Trollingers quite properly point out that AiG and the museum do not really come clean on the Bible and slavery. The room devoted to racism quotes Acts 17:26, but only the first part about how God "hath made of one blood all nations of men," leaving out the part where God determined "the bounds of their habitation." The authors emphasize that those words at the end of the verse were quoted by segregationists more often than any other biblical text, yet they are not on display in the museum, and visitors will have no idea that the Bible was widely used to defend slavery, or that the Bible does not directly condemn it. Indeed (as the authors state), AiG tries hard to distinguish between "slavery under the Mosaic covenant" from the "harsh slavery" imposed on blacks in America, in order not to raise unanswerable questions about their approach to the Bible. It would be far better, if they were more forthright about such things, like the newly opened Museum of the Bible, which I have also seen. There we find, side by side, historically important writings advocating for and against black slavery in the United States, both citing the Bible profusely. That is quite a contrast with the Creation Museum, whose motto is "Prepare to Believe," not "What Actually Happened."

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Social Science

RELIGION: What It Is, How It Works, and Why It Matters by Christian Smith. Princeton, NJ: Princeton University Press, 2017. 296 pages, including notes, references and index. Hardcover; $35.00. ISBN: 9780691175416.

The sociology of religion is conventionally characterized as composed primarily of two competing schools of thought, the old, cultural perspective advanced by Max Weber, and the new, rational choice perspective advanced by Rodney Stark. In this scholarly work, Christian Smith rejects the positivist assumptions underlying both schools, but nevertheless offers a theory of religion that "can embrace and capitalize upon the contributions of both" (p. 254) in a "more complicated and realistic theory" (p. 255) that "takes very seriously causal multiplicity, complexity, interactions, and contingency" (p. 259).

Smith is Professor of Sociology and Director of the Center for the Study of Religion and Society at the University of Notre Dame, and is arguably the leading Christian sociologist of religion today. He is perhaps best known beyond sociological circles as director of the massive National Study of Youth and Religion (2001–2015).

A trilogy of Smith's previous works serves as prologue to *Religion*, whose intended readership "includes not only academic scholars of religion, but also … the educated reading public" (p. ix). First, *Moral, Believing Animals: Human Personhood and Culture* (2003) introduced his theory of personhood and applied it to religion. *What Is a Person? Rethinking Humanity, Social Life, and the Moral Good from the Person Up* (2011) furthered his personalism and introduced his commitment to critical realism. Finally, *To Flourish or Destruct: A Personalist Theory of Human Goods, Motivations, Failure, and Evil* (2015) examined the motivations intrinsic to subjective experience and to realizing natural human goods. Smith's forthcoming work on *Atheist Overreach* (2018) may well serve as epilogue to *Religion*.

Smith's self-identified theoretical influences are (a) substantive definitions of religion that identify what religion is, in contrast to functional definitions that identify what it does; (b) the critical realist philosophy of science that combines ontological realism, epistemic perspectivalism, and judgmental rationality; and (c) the social theory of personalism, which argues that "humans have a particular nature that is defined by our biologically grounded yet emergently real personal being and its features" (p. 12). In keeping with the "methodological agnosticism" of science (not "methodological atheism"), he states flatly that

> nothing in this book either directly endorses or invalidates the truth claims of any religious tradition … The social sciences are constitutionally incompetent to make judgments about religion's metaphysical claims about superhuman powers. (pp. 17–18)

Cue Smith's definition of religion: "a complex of culturally prescribed practices, based on premises about the existence and nature of superhuman powers, whether personal or impersonal, which seek to help practitioners gain access to and communicate or align themselves with these powers, in hopes of realizing human goods and avoiding things bad" (p. 22). Most notable "is the dual emphasis on prescribed practices and superhuman powers" (p. 3). Contra Weber, "religion is not most fundamentally a cognitive or existential meaning system. Rather it is essentially a set of practices … 'making meaning' is not the heart of religion" (p. 41).

Smith anticipates and refutes the charge that his account of religion is reductionistic. Regarding explanatory reductionism, he notes that such an account of religion "would especially surprise readers who know that I have spent my career criticizing utilitarian-based rational choice theory … and exchange-based views of social relationships" (p. 62). Yet he has self-descriptively moved from the definition of religion he gave in *Moral, Believing Animals*. His definition now "prioritizes practices over beliefs and symbols, it centers on the superhuman instead of the superempirical, it replaces 'orders' with 'powers,' and it shifts the purpose of religion away from moral order toward deliverance and blessings" (p. 75).

According to Smith, the answer to why religion matters lies not in what it is, but rather in what it can do, that is, in its causal capacities to influence how individuals live and how the world operates. He lists eighteen powers that religion can generate under the categories of identity, community, meaning, expression and experience, social control, and legitimacy. None of them are unique to religion, and all of them are secondary, derivative, and dependent, like the branches and leaves of a tree relative to its roots and trunk. In another, fully elaborated list, Smith then outlines the ways religion impacts the social world beyond the individual. To illustrate these points, Smith provides a fascinating extended example of Engaged Buddhism.

As to how religion works, Smith proposes a simple mental process: "the human making of causal attributions to superhuman powers" (p. 136). Case studies of miracles, ordinary "religious experiences," and the fundamentalist attribution of the terrorist attacks of September 11, 2001, to "the retributive anger of God for America's contemporary apostasy and sins" (p. 156) beg the question of how religious practitioners interpret and evaluate superhuman causal influence. Distinct perceived outcomes that religious practices were meant to activate include the superhuman powers delivering what was sought, the powers providing a superior alternative to what was sought, the powers remaining nonresponsive and silent, the powers failing to produce what was sought, or the powers rejecting the practitioners who sought them. The social psychological literature on attribution theory and cognitive biases is vast, and Smith defines 23 of the latter and their possible religious applications, including psychological placebo effects and their sociological analogue: If people define situations as real, they are real in their consequences.

Beyond the questions in the subtitle, Smith also asks why humans presumably are the only species on earth to be religious in the first place. His answer "lies in humans' unique possession of a complicated combination of natural capacities and limitations" (p. 5). More boldly, Smith references "a large body of recent research in the cognitive science of religion" about biologically grounded genetic and neurological traits which show that religion is "a natural and fairly effortless way for people to think about and live in the world" (p. 5). People are motivated by their "objective interest in realizing six natural, 'basic goods' of human personhood [which realize] their proper natural end (telos) of *eudaimonia* (happy flourishing)" (p. 205), goods he elaborated in *To Flourish or Destruct*.

"Doing religion" depends on exercising at least ten specific human capacities that he elaborated in *What Is a Person?* "Eliminate any one of them and the practice of religion would not be possible" (p. 209). Thus, contrary to much Western social thought in recent centuries, Smith maintains that religion is not unnatural, irrational, and abnormal. We are *Moral, Believing Animals* whose self-consciousness and self-transcendence drive us beyond ourselves. Indeed, "it may actually be religious unbelievers and secularists who need more sociological explaining than religious practitioners" (p. 233).

Smith therefore concludes, in concert with twenty-first century consensus, that twentieth-century secularization theories are incorrect, though not completely wrong or useless. "Properly appropriated, they offer valuable insights into social causal mechanisms that decrease religious belief and practices" (p. 5). Critical realism apprehends the nuance and complexity of how mechanisms such as modernity's religious pluralism can either weaken or strengthen religion depending on social conditions. "Exactly which causal mechanisms operate under what social conditions to produce differing religious outcomes we cannot predict according to some general law of social life" (p. 260).

Like the examination of the human side of religion in the sociology of religion generally, the net effect on readers is likely to question their (ir)religious practices. They have surely been unmasked, though not debunked. As Smith asserts, social science can only expose religion for what it is, how it works, and why it matters. It cannot verify or falsify religious truth claims. To whatever superhuman powers we give our allegiance, we still need an explanation for all the other religions. When those religions have been carefully explained (away?), perhaps we will then be willing to turn the analytic lens back on our own religious practices. The payoff is to separate out the human from the superhuman, the bio-psycho-social-cultural from the truly spiritual, a reward of great personal value. Christian Smith is a superb guide to the human side.

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TECHNOLOGY

THE HEART OF THE MACHINE: Our Future in a World of Artificial Intelligence by Richard Yonck. New York: Arcade, 2017. 328 pages, references, index. Hardcover; $25.99. ISBN: 9781628727333.

Calling a customer service line where an automated program happily routes us to the appropriate human agent is becoming commonplace. What we may not understand, however, is how these systems are becoming better able to identify and respond not just to the words we say, but to the emotions behind those words. As computers become more and more advanced, it is no surprise that they are becoming more "emotionally intelligent." What is less understood is how these innovations will change us and, ultimately, how they will change humanity.

Richard Yonck, in his book entitled *The Heart of the Machine*, lays out a fascinating examination of the world of emotionally intelligent machines. He combines a thorough history of the innovative pathways that brought us to where we are now, a captivating tour through current and future applications of the technology, and a fairly disturbing look into the future of where intelligent machines may take us.

Yonck begins with an evolutionary description of emotions. He makes the case that cave men who had the ability to read the emotion of fellow cavemen would be better able to survive. He does a good job of explaining what emotions are, the role they play in a civil society, and the many ways they influence how we think and the decisions we make. He then proceeds to discuss how emotions can be "read." Whether it be through micro facial expressions, small vocal variations, or changes in stride or posture, he lays an excellent foundation for helping the reader better understand the many different ways artificial intelligence programs work by gathering data that allows them to quantify and interpret the emotional state of the humans they are interacting with.

Yonck's second section answers the "so what?" question by laying out the many ways artificial emotional intelligence is affecting us now and in the future. He provides one fascinating example after another, each one accompanied by enough history and science to give it context. He also avoids the pitfalls of Postman's one-eyed prophet by discussing both the benefits and drawbacks of each innovation. Here are a few examples: computer programs that can sense how hard we hit the keypad—and then provide helpful advice based on our level of frustration; wristbands that can help autistic children interpret the emotions of people they are talking with; marketing programs that can adapt to consumers' emotional state and provide ads that are more helpful, effective, or even manipulative; education programs that can sense the frustration or enthusiasm levels of a student and create appropriate individualized learning activities; programs that add an emotional component to the stark texts or Skype calls we make, helping friends in cyberspace understand how we are feeling or even helping them *feel* the same emotions; robots that provide customer service, elder care, and child care; brain chips that act as emotional prosthetics; operating systems that communicate what would appear to be warmth, humor, caring, anger, fear, and even love. For better or worse, each of these AI applications reads, interprets, and responds to human emotions. Each moves us closer to being unable to differentiate between person and machine, and maybe not really caring that much about the difference.

And that leads into the final section of *The Heart of the Machine*. Are machines that think *and* feel somehow more human? What makes something "human"? What happens when machines become smarter and more powerful than all of humanity put together? Yonck begins this section by looking at how smart machines have been portrayed in movies and books. This chapter provides an insightful look at the various artistic portrayals of artificial intelligence and serves as an innocuous segue into the question of what makes something human. This, however, is where the book takes an unexpected and frustrating turn. Yonck spends a muddled chapter establishing a definition for "consciousness," to help ascertain when a machine is no longer *just* a machine. He draws from philosophers to answer the question of consciousness but rejects the relevance of a discussion of the soul.

It is his last argument that becomes the most untenable. He presents three possible alternatives to a humanity that is forced to live with machines that are exponentially smarter and more powerful. They are the Terminator, the Matrix, and the cyborg outcomes. In the Terminator view, the machines wipe us out. In the Matrix view, the machines either use us or find a way to co-exist (unlikely from his point of view). He promotes the final possibility, the one in which humans and machines merge. Drawing on his evolutionary point of view, Yonck suggests the best way to survive in the future is to add machine elements to human bodies.

> By integrating with us, artificial intelligence could actually gain advantage in a challenging environment, balancing out those processes by which machines excel with our own unique style of cognition. Each of us would coevolve in a manner that would become increasingly symbiotic. (p. 266)

Yonck's conclusions are not surprising, considering his strict adherence to a biological and evolutionary point of view. It is unfortunate that he does not examine the interplay between emotions and the soul. When he defines human beings as little more than a concoction of cells, neurons, and chemicals, he misses an important discussion about how artificial emotional intelligence may actually be attacking our identities, our social interconnectedness, and ultimately our humanity. While he clearly cannot address all of the history, science, innovation, possible futures, and social, philosophical, and religious implications of artificial intelligence in one book, he left a clear hole when it comes to issues important to individuals who see humans as being created in the image of God and emotions as flowing from the deepest part of the soul.

That being said, this book is one that will be viewed as foundational to an emerging discipline. Yonck's writing style is easy to read, his stories and examples are compelling, his science explanations are easy to understand, and he has introduced us to a technology that will undoubtedly be impacting us far into the future. I highly recommend this book to help us better under-

stand where our technology is taking us and how we might ultimately *feel* about it when we get there.

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THEOLOGY

HUMAN ORIGINS AND THE IMAGE OF GOD: Essays in Honor of J. Wentzel van Huyssteen by Christopher Lilley and Daniel J. Pedersen, eds. Grand Rapids, MI: Eerdmans, 2017. 322 pages. Hardcover; $60.00. ISBN: 9780802875143.

If you are looking for proof that you are not alone, here it is. Transdisciplinary work in theology and anthropology has been on the rise over the last few decades and Wentzel van Huyssteen has been at the forefront of bridge building. Humans may be the only species with religion, and Earth may be the only planet with intelligence, but our humanity is defined—in large part—by the interactions we have with the rest of creation.

In 2004, van Huyssteen delivered the Gifford Lectures at the University of Edinburgh. The series was entitled "Alone in the World? Human Uniqueness in Science and Theology" and resulted in a book by the same title (Eerdmans, 2006). Those lectures and a broader body of work by van Huyssteen have inspired a generation of scholars to engage more deeply in questions about what makes us human and how that differentiation came about historically. In the present volume, Lilley and Pederson present a collection of essays in honor of van Huyssteen, featuring prominent scholars working at the intersection of science and Christianity. For scholars, the book provides an excellent avenue into the literature. The general public will find it provocative, but occasionally difficult to read. Individual articles vary greatly in readability and level of jargon. If you can get past those challenges, the range and depth of thinking is impressive.

The book is organized into an opening section and three disciplinary heads: natural scientists, philosophers and historians, and theologians. The opening has a foreword by M. Craig Barnes and a preface by the editors, setting forth the intentions and import of the book. An introduction by Niels Henrik Gregersen provides a thorough, if rather technical, summary of van Huyssteen's work. It emphasizes his commitment to relational epistemology and critical realism. By attending to how we come to conclusions in anthropology and theology, and by creating better communication between the disciplines, he opens a space for serious scholars to approach the material together, even when their standards and goals differ. All the works in the book demonstrate this level of care, not only for disciplinary standards, but for the significance of working beyond any one field. Van Huyssteen calls his methodology transversal postfoundationalism: transversal because it respects boundaries but communicates across them, postfoundational because it denies the divide between modern foundationalism and postmodern coherentism.

Part one deals with anthropology and psychology, featuring chapters by Ian Tattersol, Ian Hodder, Justin Barrett and Tyler Greenway, Agustín Fuentes, and Richard Potts. Each one brings a scientific perspective to the question of what makes humans unique and how such traits arose. In addition to providing highlights of the historical record, they all emphasize the importance of relationships. Humans live and move and have our being in community. What makes us unique might not be inherent in individuals, so much as it is something attained interactively.

As an evolutionary biologist, I have some concern that claims of uniqueness—particularly with regard to agriculture—may be overstated. Ants, for example, breed fungi and aphids. No doubt such objections could be addressed if the essays were longer, but the limitations of format restrict the scope. Overall, I found the material fascinating and informative.

Part two deals with philosophy and history, primarily focusing on questions of ethics and aesthetics in human origins. Keith Ward usefully distinguishes between (biological) humans and (ethical) persons. Clearly the categories overlap, but they are constructed in different ways and it matters how we line the two up. Michael Ruse provides a provocative set of questions that highlight the ways evolution can challenge Christian thinking. Wesley Wildman and John Hedley Brooke also contribute.

Part three includes theological reflections. Each author comments on van Huyssteen's methodology, how it does and does not work in practical settings. Celia Deane-Drummond provides a critique, asking whether it is clearly enough defined. David Ferguson defends it as an important way forward in theological anthropology. D. Etienne de Villiers compares it to Max Weber's "ethic of responsibility." Each in their own way, these authors deepen the discussion that van Huyssteen started. Michael Welker's chapter, on the other hand, seems unconnected and out of place. The section and the book wrap up with a wonderful reflection by Dirk J. Smit on the concrete context of van Huyssteen's thought in South African Christianity at the end of Apartheid. He draws the connection between our ideas of "self" and "alone" and how they interact with our ideas of "stranger," reminding us that the discussions of humanity invariably have life or death consequences in how we treat our neighbor.

The book is well edited and thoughtfully organized, with useful contents, index, and short author biographies. Copy-editing is solid throughout, but flow and

reference formats vary from chapter to chapter. Overall, this detracts little from a broad and insightful volume.

I disagree with the authors on several points; sometimes I disagree strongly with their conclusions. That is, perhaps, what the authors intended. In line with van Huyssteen's career, they are willing to engage in meaningful conversation, to bring the best of their fields to a common dialogue and to reveal their own presumptions in a way that allows all of us to come away with a deeper understanding. We do not all agree on what it means to be human, but anthropology and theology have important, even indispensable, things to offer in the conversation. We cannot know how they will interact until we bring the best of our reason and knowledge to the table. Van Huyssteen models this, and Lilley and Pedersen give us ample proof that it works. When we are willing to listen and to engage with others in careful, thoughtful, and compassionate dialogue, we are never alone.

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Letter

Mind and Heart

I wish to comment on Luke Janssen's article "'Fallen' and 'Broken' Reinterpreted in the Light of Evolution Theory" (*PSCF* 70, no. 1 [2018]: 36–47). I write from the vantage of two overlapping worlds, one as an active member of a conservative evangelical (largely "creationist") Christian faith community, and the other as a university professor and scientist who has concluded beyond reasonable doubt that the evolutionary model (descent with modification) best explains the many evidential trains that inform questions of biological origin. I also seek to build upon a 2017 essay in *God and Nature* titled "With All Your Mind," which I wrote during a sabbatical leave that included an objective to "construct a bridge over the perceived gulf that forces so many conservative Christians into having to choose between either their faith or the overwhelming picture of our origins that science is painting."

Generalizations are always treacherous, but I think it is safe to say that we scientists enjoy loving God with all of our minds. We are evidence based by training and often by personality archetype. Good scientists thrive on questioning orthodoxies and rethinking models when confronted with clear and compelling data that point in a different direction. Thus, it is probably no surprise to find large communities of committed Christian men and women in organizations such as the ASA and BioLogos who do not feel threatened by evolution theory. We appreciate the overwhelming scientific evidence supporting evolution and are willing to seek common ground with our Christian faith. But as Janssen's article lays out, simmering beneath any effort to reconcile evolution and conservative Christian faith lie profound questions of theology, not the least of which concerns the "Fall" and the Christian understanding of why nature and humanity are the way that they are.

As Janssen points out, the embrace of evolution theory necessitates a shift in the conservative Christian understanding of "The Fall" from one in which nature and humanity were originally "good" (essentially perfect), but subsequently cursed by God because of the sin of Adam and Eve, to one in which neither nature nor man were ever "good" (in the sense of being essentially perfect) to begin with. That is, when God declared that his various creative acts were good, and humankind very good, he was speaking of the same cosmos and humanity that we experience today. The problem is that this view presents an enormous stumbling block for many conservative Christians who are desperately trying to make sense of this world.

After all, we are not called to love God with just all of our mind, but also with all of our heart and being. How can I love a God who created a natural system capable of inflicting unspeakable pain and misery upon human beings (think cancer, debilitating birth defects, natural disasters here), and who populated it with humans who are capable of inflicting unspeakable pain and misery upon each other? Many conservative Christians conclude that it is logically and morally impossible for a good God to create this world and this human species in its current form—humankind and nature must have fallen!

We scientists need to take ownership of this problem of pain and deeply empathize with our creationist brothers and sisters if we are to ever have a substantive conversation with them. Dealing with the theological implications of evolution, as Janssen has done in his article (and others before him), is a necessary first step, but it cannot end there or the conversation will go nowhere. I struggled with this issue for years, and it was only through the insightful musings of C.S. Lewis in *The Problem of Pain* and some of his other writings that I began to find a way to reconcile my science and faith. This is not the venue to recount that journey and share my own musings, but please let me plead to my brothers and sisters in Christ who are scientists and comfortable with evolution theory that we have to deal with the heart as well as the mind, and do so very gently when it comes to reaching out to our creationist brothers and sisters. Many thanks to Luke Janssen for starting that process in my own mind and heart.

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