short a date." Imagine someone who got out a weather almanac, looked up the speed of winds last May, and replied, "Last May, the winds were unseasonably calm. No rough winds at all. Shakespeare was horrible at correctly noting the weather! What a dunce!" Of course, in writing Sonnet 18, Shakespeare was not trying and failing to compose an accurate weather report. The Bard's purposes, genre, and context are entirely different than meteorology. So, too, Genesis is not trying and failing to provide a scientific account of the origin of sun, moon, and stars—or man. To fault Genesis as a bad science is like faulting Shakespeare as a bad weather man. Collins correctly notes, "To call Genesis 'science,' whether ancient or modern is an enormous literary confusion" (p. 279).

So, if Genesis is not failing to be good science, since it is not even attempting to do science, what is Genesis about? The Genesis account is a correction to the rival stories of the ancient world. Genesis holds, in contrast to the pagan myths, that the sun, moon, and stars are not gods. The heavenly bodies exist to serve humans, to mark time. The idea that nature is not a god is an idea of signal importance, for if the created order is not divine, then the door is open for science to dissect and examine the secrets of nature. Genesis steers a middle course between a radical environmentalism (worshiping nature as divine) and a radical anti-environmentalism (domineering of nature as worthless material).

The role of humankind is also made more plain by contrasting Genesis with rival stories. Collins notes,

> In the Mesopotamian stories the gods made humankind to do the work they do not wish to do, but they regret their action and decide to eliminate humanity because people have multiplied and become so noisy that the gods cannot rest (which was their original goal in making man). (p. 190)

How unlike the God of Abraham who urges human beings to be fruitful and multiply. The Greek poet Hesiod wrote, "Zeus who thunders on high made women to be an evil to mortal men, with a nurture to do evil." By contrast, Genesis proclaims both man and woman to be made in the image and likeness of God. Both man and woman fall to the serpent's temptation. Both man and woman are cared for by God after the Fall.

Reading Genesis Well is a good book, and it could be made even better. At times, there is a great deal of windup before the pitch. At other times, there is needless repetition. For example, Collins writes, "The creation narrative portrays the sun, moon, and stars as makers for the (liturgical) seasons. They are servants to help humankind worship the Maker, not masters themselves worthy of human worship" (p. 293). This is a great point, but the point is made at least three times in the text.

The organization of the text could be improved in places. For example, when Collins quotes Rudolf Bultmann's famous assertion, "It is impossible to use the electric light and the wireless [radio] and to avail ourselves of modern medical and surgical discoveries, and at the same time to believe in the New Testament world of spirits and miracles," he does not respond to this assertion until pages later.

In places, not just form but substance can be improved. Collins quotes with approval James Packer saying, "The church no more created the canon [of scripture] than Newton created the law of gravity; recognition is not creation." But this is not quite right. The New Testament was written by early leaders of the church, such as Paul, Mark, Luke, Matthew, and John. It was the Council of Rome (p. 382) that fixed the biblical canon which was in some state of flux until then. The New Testament arose from the leaders of the early church and was cast into its current form by the leaders of the patristic church. That is much more than a mere recognition. Collins touches on the monogensism-polygenism question but does not address the dispute at sufficient length.

None of these quibbles should deter readers from profiting from Collins's research. *Reading Genesis Well* can indeed help us better understand one of the most ancient, most important, and most influential texts of all time.

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OLD-EARTH OR EVOLUTIONARY CREATION? Discussing Origins with Reasons to Believe and BioLogos by Kenneth Keathley, J. B. Stump, and Joe Aguirre, eds. Downers Grove, IL: InterVarsity Press, 2017. 256 pages. Paperback; $28.00. ISBN: 9780830852925.

In *Old-Earth or Evolutionary Creation? Discussing Origins with Reasons to Believe and BioLogos*, the main question comes down to, "When science and faith appear to conflict, how is the apparent conflict navigated?" In other words, which gives in and changes first, scriptural interpretation or acceptance of scientific findings? We (the reviewers) hold different opinions about several of the debates and specific arguments outlined in this book. Dr. Vukov is a philosopher and practicing Roman Catholic while Dr. Burns is an agnostic atheist and a molecular biologist. Our take on issues at the intersection of science and religion is bound to be divergent.

The book is structured as a dialogue between the two aforementioned groups, Reasons to Believe (RTB) and BioLogos, and is moderated by members of the Southern Baptist Convention (SBC). The chapters each focus on a particular aspect of the science surrounding evolution and how the debating groups respond to or critique the science and/or integrate it into their faiths.

Who are BioLogos and RTB? Both groups have similar mission statements. BioLogos "invites the church and the world to see the harmony between science and

biblical faith as [they] present an evolutionary understanding of God's creation."[1] RTB's mission is similar: the organization seeks "to spread the Christian gospel by demonstrating that sound reason and scientific research … consistently support, rather than erode, confidence in the truth of the Bible and faith in the personal, transcendent God revealed in both Scripture and nature."[2] In other words, both groups seek to promote science literacy among fellow Christians while also proselytizing nonbelievers. Generally speaking, however, RTB emphasizes the latter while BioLogos emphasizes the former.

RTB and BioLogos also share a common view of the "two books," that is, the book of nature and the book of scripture by which God reveals himself. This offers a starting point for their discussion. Since the "two books" are both aspects of God's revelation, they de facto cannot conflict with one another—while "they may be referring to different things … they are not saying contrary things."[3]

But of course, these two books do sometimes come into conflict, at least apparently. One virtue of old-earth or evolutionary creation is that several of the questions presented in it go beyond the kinds of conflicts covered in mainstream media dialogues. Rather than "did evolution take place?" you hear "what does it mean for a literal Adam and Eve if evolution is correct?" The former question, we (and RTB and BioLogos) believe, is settled, making the latter question the more interesting one. Many denominations, after all, put quite a bit of stock in there having been a historical first pair of humans in the form of Adam and Eve. The Fall of these humans, also a historical event by these interpretations, had consequences that were passed on to each member of the succeeding generations of humans, much as how genes are passed from one generation to the next. In these interpretations of the Fall, there is therefore a theological need for a single lineage of humans. Evolutionary theory, however, rejects the idea of a single human lineage having arisen from a single couple. It is clear then that something needs to give way: either a single pair of humans, Adam and Eve, did not exist literally as described (perhaps they were instead metaphorical placeholders for a small population of early humans) or there's something untrustworthy about the genetic models of how populations evolve. BioLogos opts for the former option, RTB for the latter. BioLogos's tendency to defer more to the book of nature than is RTB's is seen throughout the book.

Consider, for example, the evolution-specific lines of evidence debated in the book's pages. The debate between the two groups across the range of scientific evidence regarding humanity's place in an evolutionary framework is taken piecemeal across the chapters: each chapter is devoted to one topic, such as fossil evidence. One unfortunate effect of this organization is that the evidence for evolution is diluted. Indeed, when the scientific evidence regarding humanity's place in an evolutionary framework is taken as a set of convergent, predictive findings, there is a unified scientific theory into which human evolution fits quite well.

This organizational issue aside, however, we find the current field of genomics to be the most exciting body of evidence presented in the book. This body of evidence is also, perhaps, the most damning for RTB, who advocate for a "special creation" of humans, thus resisting the weight of evidence in favor of placing humans in the great causal chain of evolution by natural selection over the vast span of biological time. In this regard, RTB is simply not taking a scientific approach when arguing against the genomic evidence. At several points in the back and forth, it is highlighted that, for instance, there is approximately a zero percent chance that the human population was ever smaller than several thousand individuals. This is a known fact and all the evidence and models of population genetics agree on this. The only way around this would be to (1) invoke some form of miraculous intervention to allow for some other possibility (e.g., a single pair of humans) followed by another miracle to make the models based on evidence look otherwise or (2) suggest that the thousands of world-class evolutionary biologists, geneticists, statisticians, and bioinformaticians who build and use these models are seriously mistaken, without empirical evidence to suggest that they are.

It is fitting, then, that Francis Collins both founded BioLogos and was also the lead scientific administrator behind the Human Genome Project. Collins, we would presume, has found a way to do what RTB has not—to reconcile what the "book of nature" is telling him about creation and to use that knowledge to shape his interpretation of what is revealed by scripture. Again, what the two groups exemplify throughout their dialogue are differences in priority that are attributed to the "two books." BioLogos pushes for the incorporation of current scientific findings inside the framework of their evolving knowledge of the Christian faith, whereas RTB, by contrast, appears substantially more reluctant to accede to any alterations of their current interpretations of what they see revealed in the Bible. Both may formally recognize the two books. But RTB clearly sees the book of nature as written in a much smaller font than does BioLogos.

In their discussions, the topic of methodological naturalism (MN) also comes up with regularity. In the text, MN is defined (or rather, not defined) as "… a contingent value of most practicing scientists today" (p. 109). Colloquially, MN is simply the assumption that when you are applying a scientific test to interpret the results of an experiment, you rule out any supernatural explanations. For the methodological naturalist, you, as a scientist, should approach the cosmos as if it were composed exclusively of natural bits of matter and energy—no gods or spirits or divine interventions

at play. Why do things this way? Well, it appears to work, and functionality alone is relatively strong evidence for its practical application as the way of doing science. It isn't that MN disproves anything supernatural. It is simply that supernatural explanations appear to be irrelevant.

There is, of course, plenty of room for disagreement about MN, and BioLogos and RTB are no exceptions. Obviously, as both are Christian groups, neither is comfortable with pure MN as the only way of viewing the universe, but they do have differences of opinion regarding its utility. J. B. Stump, writing for BioLogos, suggests that "... understanding of natural theology needs MN. It is another question, though, whether theological conclusions can be derived from purely scientific premises" (p. 111). This claim, however, is at odds with a belief that "[methodological naturalism] is not a necessary part of science" (p. 109), a view that is directly at odds with the current understanding of science as a process. What does a scientific process that incorporates the ineffable, unpredictable actions of nonnatural entities look like? Jeff Zweerink (RTB) argues that "For practical purposes, scientists must operate largely from a standpoint of methodological naturalism … however, that does not completely exclude theological considerations" (p. 113). In RTB's view, the Bible is a source of testable scientific claims that can be assessed to reveal or support theological truths. Curiously, the two groups seem to agree on the utility of MN, but BioLogos sees it as a means of correcting their incomplete interpretations of faith while RTB sees it as a way to buttress their existing interpretations.

What is our take on the debates found in the book? It should be clear by now that we prefer BioLogos's approach to that of RTB's. But that's not to say that we agree completely with BioLogos, or indeed, with each other. One thing we do agree upon, however, is the value of intellectual humility in approaching these issues. And that also leads us to favor the approach of BioLogos. Indeed, with respect to the approaches to the integration of the science surrounding human origins and Christian faith as outlined by BioLogos and RTB, it is clear that the former is more readily able to accept their intellectual limits—or rather, accept that perhaps some of their prescientific beliefs and biblical interpretations might be mistaken or in need of revision. For some, this admission might be seen as a sign of weakness of faith and lacking in conviction. For others, this is a sign of a faith that is wholly human, an admission that no one has a perfect understanding of the revelations found in either of the "two books," and a presumption that one's position is destined to be readjusted as the two interplay.

Should you read this book? We commend the groups involved in the work (BioLogos, RTB, and the SBC) for their demonstration of vigorous intellectual engagement. It is a testament to their pursuit of knowledge that they are able to engage in good-faith argument on these contentious topics. Reading through this work will provide believers with a wide variety of positions regarding human origins and Christianity while also covering the scientific support underpinning our understanding of human evolution. For nonbelievers, this work might be of interest to provide perspective on how believers view the topics of debate. However, it contains much material about issues along the lines of "how many angels can fit on the head of a pin"-type Christian esoterica that are typically uninteresting and unconvincing to outsiders. In this regard, the debate presented here clearly targets the faithful. If you are a Christian who is interested in challenging your perspectives on what it might mean to think deeply about human origins and faith, this book is an excellent and rigorous starting point.

Notes

[1]BioLogos, "What We Believe," accessed February 18, 2019. https://biologos.org/about-us/what-we-believe/.
[2]Reasons to Believe, "Mission and Beliefs," accessed May 4, 2020, https://reasons.org/about.
[3]Kenneth Keathley, J. B. Stump, and Joe Aguirre, *Old-Earth or Evolutionary Creation? Discussing Origins with Reasons to Believe and BioLogos* (Downers Grove, IL: InterVarsity Press, 2017), 12.

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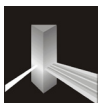

Physics

AMAZING GRACE OF QUANTUM PHYSICS by Dillard W. Faries. Eugene, OR: Pickwick Publications, 2017. 268 pages. Paperback; $33.55. ISBN: 9781532614217.

What if beneath the world of everyday experience things were not as they seem? If all things did not really have predictable locations or follow predictable trajectories but instead only appear to because they are large enough that their true behavior is undetectable to our senses? If the cosmos did not consist of discrete particles acting independently of all others; that everything was somehow connected with everything else? Strange as these possibilities may seem, these are not "what-ifs"; according to quantum physics, they are in all likelihood how the real world actually behaves. How physics arrived at this quantum mechanical understanding—if, indeed, it may legitimately be so called—forms a major theme of Dillard Faries's *Amazing Grace of Quantum Physics*, which also seeks to unpack some of the philosophical and theological implications of the quantum mechanics (QM) shockingly counterintuitive picture of reality.

Amazing Grace of Quantum Physics consists of an introduction, 18 chapters, an epilogue, and two appendices, but is perhaps better thought of as involving three main somewhat loosely overlapping parts. The first involves introductory material and consists of the introduction