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I find other lines of reasoning that they level against neo-Darwinism to be quite misleading. On the one hand, they employ statements made by dozens of scholars — including Francis Collins, who is listed amongst "Christian scholars who disagree with Neo-Darwinism" (pp. 17-18, 90-91) — which essentially amount to "We don't yet completely understand this-or-that particular element of biology" as evidence against neo-Darwinism. And on the other hand, they frequently include argumentation pertaining to the origin of life, even though neo-Darwinism does not attempt to explain the origin of life.

Credit goes to Bonitto and Knox when it comes to the fifth a priori assumption: methodological naturalism. As they parse that fifth phrase (which I have quoted verbatim above), they are correct. Unfortunately, they have set up a tautology (akin to stating an "assumption" that hydraulic mechanisms can involve fluids only). A scientific explanation is, by definition, restricted to material causes. Scientists can directly examine only the material realm; they struggle to operationalize and test non-material matters (not just theological ones, but even matters such as consciousness, mind, love, or whatever preceded the Big Bang). But that does not prevent neo-Darwinists from *believing* privately that non-material causes *might* also be at play without explicitly weaving the latter into their explanations (thus avoiding God-of-the-gaps arguments). And they will call those *belief statements*, not scientific explanations. This does not invalidate neo-Darwinism.

Bonitto and Knox liken neo-Darwinism to the clumsy Ptolemaic cosmological model-which history ultimately revealed to be an unwieldy, indefensible, contrived, ideologically inspired hand-waving invention – and liken more recent attempts at refining the neo-Darwinian synthesis as equivalent to the introduction of epicycles into the Ptolemaic model of the cosmos in a failed attempt to account for contradictory observations. They ask why neo-Darwinists hang on so tightly to a theory that is so evidently flawed and unsupported: they suggest that scientists don't want God to exist, do not want to "let a Divine foot in the door" (pp. 13-14, 19, 31, 78, 92), want to enjoy an immoral lifestyle and want financial stability. They draw lines connecting neo-Darwinism to atheism, Karl Marx's Communism, Hitler's Nazism, nihilism, the horrendous Columbine shootings, and eugenics and social cleansing programs, argumentation that I find to be unhelpful. Although they acknowledge that Darwinism may not be a sufficient condition for those aberrations, they then take two steps backward by finishing with "it is undoubtedly a necessary condition. Evidently, bad science can cause bad consequences" (p. 96).

I regret that I cannot recommend this book. I disagree with the authors' conclusions that neo-Darwinism is a product of erroneous presuppositions which may foster "bad thinking," "bad science," and "bad society" (p. xvii). Bonitto notes in the preface that he is "not a professional scientist" and "did not set out to add any new scientific research on evolution or scientific methodology" (p. xv); adding another co-author with doctoral-level training in biology might have been useful and is recommended for their future work on this topic. It is important to have more collaboration between theologians and scientists, each with their unique but complementary perspective on truth (as per Augustine's "Book of God" and "Book of Nature"). Overall, this book is insufficient to address the monumental task of discrediting neo-Darwinism, which is based upon extensive accumulation of data and is backed by the vast majority of the scientific community, including experts in all the relevant areas. I found irony in the penultimate paragraph of the preface to this work in which Bonitto states,

My goal for this modest book is to illuminate the importance of preconceived ideas when drawing intellectual inferences. One's presuppositions can heavily cloud how a thing is interpreted but true science has always been about filtering out personal biases ... Bad thinking leads to bad science, which inevitably ends in a bad society. (p. xvii)

I would reflect those statements back at the authors.

#### Note

<sup>1</sup>Michael Syvanen and Jonathan Ducore, "Whole Genome Comparisons Reveal a Possible Chimeric Origin for a Major Metazoan Assemblage," *Journal of Biological Systems* 18. no. 2 (2010): 261–75; doi.org/10.1142/S0218339010003408.

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WHAT HATH DARWIN TO DO WITH SCRIPTURE? Comparing the Conceptual Worlds of the Bible and Evolution by Dru Johnson. IVP Academic, 2023. vii + 224 pages. Paperback; \$24.99. ISBN: 9781514003619.

Despite the book's title-What Hath Darwin to Do with Scripture? - this is not a typical origins book. For example, its author, Dru Johnson, does not lay out a specific biblical view of the creation narrative and then seek to show how mainstream scientific findings line up (or not) with this narrative. Rather, he starts off with the premise that both the scriptural and evolution narratives are founded on a single principle: becoming fit to live in a world where resources are in short supply. Survival, in each story, depends upon this "fittedness." Furthermore, since God is the Author of both narratives, then "fittedness" for life in each story should be consistent with God's character. But is it? That's the question that runs all the way through this book. On the one side, the book follows the biblical picture of what God states is necessary for Israel to thrive in the midst of scarcity. On the other side, it summarizes the author's understanding of

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the current state of evolutionary biology. Do the two stories reveal a commonality as we would expect if a single individual (God) is responsible for both? An all-important question, indeed.

Johnson is a biblical scholar, and his detailed summary of the central role of surviving-through-scarcity in Israel's history is a fascinating read. It starts with Genesis, proceeds through the exodus and on to the prophets, showing at each step what God expects if people are to thrive in a world where scarcity makes life very difficult. Nowhere is that laid out more clearly than in Deuteronomy 28 where the ramifications of obeying (and not obeying) God's commands are laid out in stark detail. Thriving in a world of scarcity is possible, but it requires living in worshipful harmony and obedience with the rules-for-living set out by God. That's the ancient story laid out by the biblical writers.

In considering life in a world where scarcity reigns, Johnson states that there are "remarkable similarities between Darwin's version of natural selection and the biblical discourse on the same topics" (p. 7). It is not that he necessarily thinks the two stories lead to the same conclusion about God. Rather, this is what he wants to test. By placing the way in which they are told against each other, the telling of these two stories "can help us see unseen features that shape the world ... and they do so at least in part to convince us how to live. These are ethically freighted tales" (p. 12). But is Johnson right about this? Are the goals of the biblical authors and the evolutionary scientists who explain evolution doing the same thing? Do the scientists seek to "convince us how to live" as they shape their story of the evolution of life on Earth? Some do, of course, but when they do so, have they not stepped out of the world of science and moved into the realm of philosophy or religion? The single most important purpose of the biblical story is to show us how we ought to live. What about determining how we ought to live from hearing the science story? Well, I think that is more complicated.

Nonetheless, Johnson's main point is well taken. If the Author of both books is one and the same, we should not expect major differences to arise as long as we are laying out each story correctly. I am a biologist, so I will restrict my comments largely to Johnson's description of evolutionary biology. But there is an important point related to the Bible I need to make from the start. He writes that the biblical view assumes "a pivotal reorientation of the cosmos" after the Fall (p. 4). Later Johnson expands on what he considers to be the ramifications of this view: Evolutionary biology assumes that "the metaphysical nature of the universe remains unchanged. The laws of thermodynamics, gravity, electromagnetism, and the like persist. This means that biology plays in the same realm of physics as it always has" (p. 35). In other

words, before the biblical Fall (which was almost the entire span of billions of years during which life forms emerged according to evolutionary theory), the cosmos was functioning with a different set of natural laws. I am not a biblical scholar, but I know there is not unanimity on this point among Old Testament scholars. (See Iain Provan's 2014 book, *Seriously Dangerous Religion*, for example). Obviously, Johnson's view of the biblical story makes it difficult to take evolutionary theory seriously because all aspects of evolutionary theory have been formulated under the assumption that the cosmos has always operated under the same natural laws as it does today. Johnson thinks that the biblical authors assumed this was not the case.

Still, despite this initial skepticism brought on by his particular view of the biblical story, the book proceeds to describe Johnson's view of evolutionary theory. He correctly writes that Darwin stressed that competition for fittedness was the fundamental axiom of evolutionary theory. He is also correct to assert that, under certain circumstances, cooperation can be important too. But Johnson writes that this was not introduced into evolutionary theory until the 1930s, and that it conflicted with Darwin's original theory. Actually, it was Darwin himself who predicted that there would be circumstances when cooperation would come into play, even as Darwin correctly pointed out that this would not only *not* be in conflict with natural selection, it would actually be expected.1 Not only that, but it was Darwin who accurately predicted the concept of kin selection as the basis for altruism in certain circumstances. These concepts were not new to evolutionary theory, somehow proving Darwin wrong as Johnson implies. They were built into the theory of natural selection by Darwin himself almost from its earliest days.<sup>2</sup> But natural selection was and still is at the heart of the theory-even in cases in which the most successful evolutionary strategy is cooperation.

Johnson refers to current evolutionary science as a "moving target" (p. 15), and he implies throughout the book that core foundations of evolution are still up for debate and reinterpretation. As a biologist, I don't see it that way, and to the extent that Johnson leaves this impression, I am left with some discomfort with his rendition of the story. Dobzhansky's famous sixty-year-old statement, "Nothing in biology makes sense except in the light of evolution," is just as true today as it was when he first made it. On the other hand, if by "moving target," he means that scientists are still working out the details, that would be an accurate summary of the current state of affairs, and that, after all, is the way science functions. I just wish he had made that clearer. This is especially important given that at several points (see the above discussion of the cosmic Fall), he expresses skepticism about evolutionary theory. His skepticism is also illustrated by this statement: "Most of us are struggling with

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what to make of the ... fossil record, and that is a right and necessary struggle. The so-called natural history of our planet has a lot of explaining yet to do" (p. 191).

Johnson does not explain who, or why, "most of us are struggling" with the fossil record, but by framing it in this manner and not explaining why he thinks this way, he is in danger of being perceived as not fully examining the evolutionary story he seeks to tell. Regardless of what some biblical scholars may think, evolutionary scientists think the fossil record provides a remarkably revealing picture of how life has unfolded on Earth over hundreds of millions of years.

Johnson spends quite a bit of time examining sexual reproduction in both the evolutionary and biblical accounts. He thinks that mammalian evolution (including our own hominin lineage) has been characterized by a long history of males forcing copulation on females. He cites a paper from 2006 in which forced copulation and/or sexual violence is the norm in guppies, ducks, and several species of flies, but that paper provides no evidence for its pervasiveness within the wider evolution story. More recently, a meta-review of mammalian sexual aggressiveness and coercion throughout the mammalian world identifies only four of thirty-two mammalian orders which have documented examples of such activity, and the author was able to identify only one species which represented a case in which sexual violence provided an adaptive advantage.<sup>3</sup> Johnson's concern, of course, is that if such activity is the norm in the evolutionary story, it creates a conflict between evolutionary and biblical stories. However, we have no reason to think it is the norm.

Continuing his discussion of sexual reproduction, Johnson goes on to draw a conclusion about a particular evolutionarily strategy, one that is of special biblical interest - monogamy. He states, "Monogamy is not evolutionary advantageous. It does not make sense" (p. 136). Actually, there are various types of evolutionary reasoning that explain how monogamy does make evolutionary sense under certain circumstances. Frequently the advantages relate to the father's active involvement in parenting and retaining the sort of relationship that will ensure the offspring he is caring for are really his own. Indeed, one investigation suggests that the movement toward monogamy in human evolution (compared to our promiscuous ancestors of several million years ago) may have played a significant role in enabling the massive increase in brain size that characterizes our lineage.<sup>4</sup>

As the book draws to a close, Johnson writes: "Is there a way to reconcile entirely the Hebrew intellectual world to the present evolutionist accounts, theistic or otherwise? I am now less sure ..." (p. 175). Although this question remains of the utmost importance, trying to get

a clear answer begins with being sure one has an accurate view of both stories. Does this book help to provide such a view? Of that, I am not so sure.

### Notes

- <sup>1</sup>Darwin, The Descent of Man, Kindle Edition (2014), p. 23.
- <sup>2</sup>See E. O. Wilson, *The Social Conquest of Earth* (Liveright, 2013) for a discussion of this point.
- <sup>3</sup>Marcelo H. Cassini, "Sexual Aggression in Mammals," *Mammal Review* 51, no. 2 (2021): 247–55, https://doi.org/10.1111/mam .12228.
- <sup>4</sup>For details, see Carl Zimmer, "Monogamy and Human Evolution," *New York Times*, August 2, 2013, https://www.nytimes .com/2013/08/02/science/monogamys-boost-to-human -evolution.html.

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WILD EXPERIMENT: Feeling Science and Secularism After Darwin by Donovan O. Schaefer. Duke University Press, 2022. 328 pages. Paperback; \$28.95. ISBN: 9781478018254.

Donovan Schaefer is currently in the Religious Studies Department at the University of Pennsylvania. Although he is a member of a program focused on religion, he describes himself as an atheist. His interest in understanding religion more deeply, particularly as it relates to *affect theory* (an approach to knowledge and culture that focuses on emotions), is exemplified by his scholarly work and his close relationship with Alister McGrath – theologian, historian, mentor, and close friend.<sup>1</sup> While religious research might seem inappropriate for an atheist, one could argue that Schaefer presents an outsider's perspective in religious studies. In *Wild Experiment*, he examines the intersection of affect theory with science, religion, and secularism, and the development of conspiracy theories and racialized reasoning

Schaefer divides his book into Part I: Cogency Theory and Part II: Feeling Science and Secularism. Part I provides readers with a thorough understanding of the epistemological, axiological, and ontological stances present in knowledge making. Schaefer develops his idea to explore the interconnectedness of feelings, emotions, values, beliefs, and life experiences which drive knowledge making. Cogency theory is "a collection of perspectives on how thinking is made by feeling" (p. 10). Schaefer argues that "[n]ew knowledge feels true to us because it lands on our existing landscape of understanding in a way that fits. It clicks with the terrain already in place" (p. 6). Part II examines the historical background of the development of evolutionary theories, and the responses to these theories by religious institutions, particularly the Roman Catholic Church. This section connects the dots between affect, as an intrinsic part of knowledgemaking, and evolutionary theories, racism, and the development of conspiracy theories.