anesthetic. Other troublesome issues, such as predatory behaviors of "killer" orcas and avian siblicide, are also addressed, with similar ideas that the benevolence of a creator God is expressed when a deeper scientific understanding of these processes is engaged.

In terms of critiques, the assertion that species apart from mammals and birds cannot feel pain will certainly be disputed by some; the difference between pain and suffering is never addressed, in that the terms seem to be used interchangeably throughout the book; and suffering is never explicitly defined. Though it adds valuable information to the discussion, this book is certainly not a comprehensive treatise on animal pain and suffering. Not all natural suffering experienced by animals is addressed. As a veterinarian who must contend with pain, disease and suffering in my patients, and who often serves a quasi-pastoral role in the corresponding anguish and doubts it creates in their human companions, I find that too many unanswered questions remain in this book. Excellent though the scientific answers are, a fully developed theodicy it is not; theological challenges remain that bring readers to face some of the same mysteries that Job ultimately embraced.

Nevertheless, this book is a worthwhile contribution to the literature on the problem of animal pain and is particularly useful to scientists who seek to make apologetic arguments based on empirical evidence. It expresses the power, wisdom, and goodness of God through revelations in biological science. Academics and lay readers alike will find the text highly engaging, and its brevity refreshing. *The Problem of Animal Pain* is highly recommended as an excellent, if partial, addition to what will continue to be a more robust conversation. A terrific bibliography offers many opportunities to explore the topic further. While not entirely sufficient as a stand-alone theodicy for animal pain and suffering, it is a buttress to a wider theistic response, and one that provides a much-needed, scientifically and biblically solid, voice.

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DOI: https://doi.org/10.56315/PSCF6-25Davison

ASTROBIOLOGY AND CHRISTIAN DOCTRINE: Exploring the Implications of Life in the Universe by Andrew Davison. Cambridge University Press, 2023. 406 pages. Paperback; $27.99. ISBN: 9781009303163.

From my experience in speaking to groups on science and Christianity, whenever I suggest that Christian faith needs to allow for the possibility that intelligent, agape-capable beings could possibly emerge not just on Earth but elsewhere in the universe, the conversation inevitably produces several related questions, such as whether Jesus's atoning work on Earth would apply to such beings elsewhere in the universe, or whether God would become incarnate elsewhere in the cosmos. Often participants convey a tone that such questions are hopelessly big for us, that the topic may be momentarily interesting but ultimately overwhelming and futile. There are also those who offer confident commentary denying that any such life could possibly exist elsewhere other than Earth.

It is into precisely these sorts of expansive questions that Andrew Davison—recently appointed Regius Professor of Divinity at Oxford—takes us with this marvelous volume. While the person in the pew may feel theologically at sea with such questions, Davison models the professional theologian taking on a challenging question, to offer the church a set of constructive responses that cohere with both current science and historic Christian faith (or, more precisely, doctrine).

With a hundred billion stars in just the Milky Way alone, the universe possesses "an astonishing number of potential cradles for life, and that, to my mind, changes everything" (p. 5)—a potential that includes not just biotic life but also *intelligent* life. Yet even without our current knowledge of cosmology, theologians have been writing about the possibility of "other worlds" (beyond Earth) since the thirteenth century and writing about "the theological implications of biological life beyond Earth" since the mid-fifteenth century (p. 7). Other worlds and intelligent life beyond Earth have not been central topics of theology over the centuries; however, Davison does a superb job of unearthing the many theological discussions that have taken place, both past and recent.

Davison's interest, though, is not merely historical but also constructive. "One motivation for a book such as this is to help the human community (and specifically, the Christian community) to be more ready to receive, process, and respond to any future signs of life elsewhere. Detection might come in a decade, centuries hence, or perhaps never, but if it does, it will be useful to have thought through the implications in advance" (p. 11). He holds a second motive: "after a journey—physical or intellectual—in unfamiliar territory, one can return home with fresh eyes … [O]ur theology can find useful provocation, even invigoration, by having life beyond our planet in mind … [A]spects of Christian faith shine in new ways once placed in a different light" (pp. 11–12).

Davison's method is to discuss the implications of life elsewhere in the universe for a range of Christian doctrines. For instance, do we have theological reason to believe there might be life elsewhere? Certainly, for "The cosmos is for life … the cosmos is for the communication and display of divine excellences (among which life is particularly significant). That, in turn, is seen to entail (or at least suggest) multiplicity and diversity, and therefore to undergird an expectation that life would be widespread and, perhaps, diversely realized" (p. 82). For Thomas Aquinas, multiplicity, or "the numerical plurality of things," is second only to

revealing "divine goodness" as the "summit of the divine plan for creation" (p. 84).

The range of questions that now follow is wide, and here I can give only a flavor of these. How would species elsewhere in the universe have knowledge of God or be able to speak of God? This is an important question because knowledge and language are always mediated contextually and through particular evolved neural faculties—and such faculties will have evolved very differently elsewhere across the universe. Consequently, what is the source of "continuity between how very different species [in different locations in the universe] might understand God as threefold?" (p. 115). The source would have to be revelation (rather than local versions of natural theology). "[T]he one God, boundless and creative, would be known [through divine self-revelation] in different but not incommensurate ways by different creatures … refracted and accommodated to their own distinct way of knowing" (p. 133).

Likewise with language for the Trinity. Creatures elsewhere would have their equivalent language for what we call "personhood," to reflect the three persons of the Trinity, particularly in the sense of generative relations (such as the Son being "eternally begotten"). Thus, creatures elsewhere would have language that reflects qualities of personhood as related to "generation, coming forth, and gift" in their form of creatureliness, and thereby be able to use these equivalents to speak of the persons of Trinity.

Would other creatures bear the image of God? There is no scriptural reason to think not. Beings elsewhere in the universe could converge on image-of-God qualities such as intelligence, memory, will, and morality, even though possessing these in local biological, morphological, and cultural forms. "What God gives freely on Earth, God may also give freely elsewhere … [T]he image of God is a finite reflection of boundless divine perfection … [which] suggests that the image need not be one thing only, or identical wherever it is found" (p. 165).

Do beings elsewhere also sin? Presumably at least some do—but if so, then does Jesus's atonement on Earth suffice for other beings elsewhere, or would God take on multiple incarnations for atonement everywhere intelligent life occurs? Over the past several centuries, arguments have been made both for and against—"theologians can argue the matter in good faith either way" (p. 225).

In the end, Davison leans toward incarnation anywhere in the universe where there are creatures bearing God's image. Davison recognizes that this is contentious: "We find no greater point of divergence in thinking about the theological implications of life elsewhere in the universe than over this idea of multiple Incarnations" (p. 192). The disagreement arises because "For some this idea appears … a denial of … the centrality of Christ [Jesus of Nazareth] to the whole cosmos" (p. 192). Davison agrees that one incarnation in one location of the universe could indeed atone for all beings throughout the universe. Nonetheless, he also argues that it would be "fitting" for God to take on multiple incarnations because remediation (atonement) is not the only reason for incarnation. For incarnation also provides other gifts of God's grace, including "to receive the highest dignity conferred by God" (by God's incarnational presence), receiving the deepest divine self-revelation (necessarily in person), and *theosis* (being spiritually united with God, in friendship with God) (p. 193). Davison also contends there could be non-sinful beings elsewhere in the universe, and these non-atonement reasons for incarnation would also apply in their cases.

Davison explores other questions, including the following: Would multiple incarnations all experience resurrection and ascension, and thus meet each other in heaven? Given that other image-bearing beings could emerge across the universe over vastly different time scales, and given that the New Creation is understood doctrinally to be cosmos-wide, then what are the implications for God's timing for the eschaton? And in the New Creation, how will different creatures relate to each other?

This volume is a marvelous tour of the craft of theology as it intersects with science, with the author deploying a rich range of theological resources. While he is among those science theologians today with a particular allegiance to Aquinas, nonetheless he employs resources from Patristics though the Scholastics, from the Reformers to contemporary theologians—Protestant, Catholic, and Orthodox alike.

My one significant quibble is with his Aristotelian assumption of intelligence as the primary human property. This assumption remains widespread even in secular circles today; it is illustrated, for instance, by SETI—the search for extra-terrestrial intelligence. But as I have previously argued, while consciousness and intelligence are clearly divine qualities, *agape*-love is more fundamental to the nature of God; thus, for Christians, the holy grail of astrobiology should be the discovery, not of intelligent life (as exciting as this would be), but rather the discovery of *agape*-capable life—beings capable of loving both fellow beings and God.

Regardless, I enjoyed this book immensely and recommend it highly. Scientists wanting to write on topics in science-and-theology would do well to understand the theological trade through this volume. More importantly, Christians should not worry about life being found elsewhere in the universe—indeed, such discovery would only reveal further the glory of God.

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