

in the first place. It is also difficult to see how some account of the role of control can be avoided (perhaps an alternative to the critical scrutiny account rejected by Rowlands), if only to make room for the possibility of moral progress.

One of the broader theological issues here for Christian thinkers concerns how to distinguish humans as moral agents from other animals. Christian thinkers will likely appeal to the theological claim that humans are uniquely made in the image of God, if this is understood as involving a call to a certain responsibility before God. Is that view compatible with the view of reason, morality, human moral agency and animal moral subjecthood developed by Rowlands in this book? One virtue of this book for Christian thinkers is that it will encourage them to reflect on the extent to which their interpretation of biblical material has been influenced by traditional conceptions of the human found in Western philosophy and to reflect critically on those conceptions themselves. Furthermore, even though Rowlands's own views of the deep kinship between humans and other animals seem to be grounded in a form of evolutionary naturalism, there may be good reason for Christian thinkers to affirm a similar kinship on the basis of the biblical account of creation.

I highly recommend *Can Animals Be Moral?*, especially to Christian animal scientists and Christian philosophers. The author writes clearly and develops his arguments carefully with an understated sense of humor. Whether or not, in the end, you agree with Rowlands, reading this book will deepen your understanding of the issues it addresses and is sure to provoke you to an ongoing engagement with questions regarding your own relationship with animals.

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THE PHYSICS OF THEISM: God, Physics, and the Philosophy of Science by Jeffrey Koperski. Chichester, UK: John Wiley & Sons, 2015. 279 pages. Hardcover; \$89.95. ISBN: 9781118932810.

Theologians and philosophers of religion are increasingly interested in science, especially physics. Subtopics of physics such as the fine-tuning of universal constants, quantum mechanics, relativity, and cosmology are surprisingly common subjects where religion is involved. Bridging the gap between these fields, however, has proven to be quite difficult. Those in religion and the humanities typically interact with the mathematical sciences only at a popular level, and physicists are often dismissive of meta-

physics and religion. Fortunately, the philosophy of science provides a middle ground between these disciplines. In this book, Koperski provides a critical analysis of the ways in which physics is brought into play in matters of religion.

Jeffrey Koperski is a professor of philosophy at Saginaw Valley State University. In addition to PhD and MA degrees in philosophy, his education includes an undergraduate degree in electrical engineering. This training gives him the STEM (Science, Technology, Engineering, Mathematics) background to grasp some of the more complex issues in physics, but what stands out is the practical perspective of an engineer.

Koperski has written previously on the intelligent design movement, specifically the 2008 *Zygon* paper, "Two Bad Ways to Attack Intelligent Design and Two Good Ones." This book has the same even, scholarly presentation as the previous work. In this book, Koperski indicates largely what physicists and philosophers of science think and why they think the way they do, without passing judgment. Koperski comes across as someone who feels no need whatsoever to attack personally those with whom he disagrees. In fact, he writes, "Placing the black hat on one's opponent is no substitute for an argument" (p. 205).

Late in the book, he makes an observation which seems motivational for the enterprise.

If methodological naturalism is supposed to be a no trespassing sign, scientists don't take it as such ... it does appear that the boundary only works one way. Scientists can cross at will; those on the religion side must stay where they are. (p. 210)

By way of example, he quotes Mano Singham, who wrote in "The New War between Science and Religion" (*The Chronicle of Higher Education* [May 9, 2010]), that

the scope of science has always expanded, steadily replacing supernatural explanations with scientific ones. Science will continue this inexorable march ... After all, there is no evidence that consciousness and mind arise from anything other than the workings of the physical brain, and so those phenomena are well within the scope of scientific investigation. What's more, because the powerful appeal of religion comes precisely from its claims that the deity intervenes in the physical world, in response to prayers and such, religious claims, too, fall well within the domain of science.

In other words, naturalists may comment upon religious assertions, but the reverse is inappropriate.

Book Reviews

Koperski is not entirely neutral and does write some things meant to correct errors in the current discussion. He gives under the heading, "Conventional Wisdom," the following examples of common errors:

1. Science and religion have been at war with one another since Galileo was tortured by the Inquisition.
2. The Catholic Church taught that the earth was flat until Christopher Columbus proved otherwise.
3. The scientific revolution finally freed Europe from the grip of religion.

Against these, Koperski responds, "As every historian of science knows, these three nuggets of conventional wisdom are false."

Koperski has listed a fine set of durably popular, but incorrect, beliefs. As another example, it can be exasperating for nonphysicists to hear the claim that time is an illusion based upon some characteristic of the universe observed within the laboratory. Koperski does not indicate that such a view is false, but he observes, "Ellis argues that even if spacetime theories do not contain an objective flow of time, much of the rest of science cannot do without one" (p. 137). For example, it would be impossible to compare the clock rates of various microprocessors if time were declared to be illusory.

The book leads with a gracious dedication to his family and is composed of seven chapters: (1) "Science and Religion: Some Preliminaries," (2) "Fine-Tuning and Cosmology," (3) "Relativity, Time, and Free Will," (4) "Divine Action and the Laws of Nature," (5) "Naturalisms and Design," (6) "Reduction and Emergence," and (7) "The Philosophy of Science Tool Chest." Within these chapters, Koperski addresses such topics as abductive reasoning, the strong and weak anthropic principles, atheism as an assumed fundamental precept of science, Boltzmann brains, determinism and free will, arguments and evidence regarding divine intervention, emergence and reductionism, evil, evolution, creationism and intelligent design, fine-tuning of the universe, and multiverse theories.

This is an excellent text for those interested in the philosophy of science within those areas in which science and religion bump up against each other. Koperski indicates that there are several models of the interaction of science, philosophy, and religion. He lists the four categories of interaction proposed by Ian Barbour, emeritus professor of Carleton College: *Conflict/Warfare*, as typified by the Scopes Monkey Trial and the point of view of Thomas Huxley; *Independent Realms*, as advocated by Stephen

J. Gould and his concept of "nonoverlapping magisteria"; *Dialogue*, the "two books" perspective as advocated by Galileo; and *Integration*, the integration of all knowledge into one coherent whole, a recent consistent theme within process theology.

Koperski rules out the viability of the Conflict/Warfare model of the self-proclaimed New Atheists. He observes,

Naturalism and theism are obviously incompatible, since naturalism entails atheism. But science is not synonymous with naturalism nor is religion only theism. While science influences our metaphysics, metaphysics cannot be reduced to science, or at least it would require some argument in order to believe that it does.

Koperski advocates calling science, philosophy, and religion "disciplines" and further recognizing that the quest for knowledge is an interdisciplinary one. He asserts, "I've called the interdisciplinary view 'my proposal,' but in many ways, it is just what's going on in the philosophy of religion and the philosophy of science these days."

Koperski retells the familiar in new ways. He discusses the fine tuning of the universe, but does not use the old chestnut that if a person survived a firing squad with fifty sharpshooters, he would be justifiably surprised that all of the riflemen (apparently) simultaneously missed. Koperski's analogy is,

It's a bit like telling a skydiver that he should not be surprised that he survived after his parachute failed. True, if he had not survived, he would not be around to wonder about it. But so what? It's ludicrous to think he shouldn't be surprised as having lived through the experience.

Koperski does not provide the reader with an endless collection of quotes from previous works, though he cites classic sources such as Galileo, Maxwell, and Einstein, as well as popularizers such as Davies, Dawkins, and Craig. He cites as necessary to the more obscure technical literature that nonphilosophers are unlikely to read. He does not overwhelm the reader with mathematics either. Each chapter's end notes and references appear directly at the end of the chapter, which make the notes very convenient to access.

This book is not a tract; it does not push the reader in the direction of any particular religion or world view. Koperski writes as a learned observer and sometimes as a participant but not as a partisan. He clearly, but politely, disagrees with the views of the naturalists, holding like Thomas Nagel that many popular naturalistic claims, set forth as axioms, are untenable.

Koperski correctly defines the “no miracles” argument as not meaning that God has not dabbled in his own creation but rather that “it would be a miracle if science could be as successful as it has been and not more or less true.”

Like an excellent teacher, Koperski gives examples which are accessible to the average reader. Here’s one on free will:

If the behavior of all things, including the atoms in our own bodies, is wholly determined by the laws of physics, then there doesn’t appear to be any room left for free will. In such a world, a kicker doesn’t choose to kick a field goal any more than the football chooses to go through the goal posts. It’s all just a matter of the laws of physics working themselves out.

One last quote shows the practical orientation of the author:

The Boltzmann brain story is a *reductio ad absurdum*. If one’s physical theory indicates that the best explanation for my own subjective experience, including memories, is that I am a disembodied brain temporarily hallucinating in the void (rather than a real person currently sitting at my desk), that’s a problem for one’s theory. A set of beliefs known to be grounded on an illusion contains its own defeater. Any theory that leads to radical skepticism about one’s experience would invalidate whatever evidence one had for the theory itself. In other words, once you believe it, you probably shouldn’t. (p. 92)

The book is worthy of recommendation as an accessible text for undergraduates studying the philosophy of science. Many, perhaps most, of the perennially controversial topics are covered within the text. A worthy effort indeed.

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RELIGION & SCIENCE

THE SOUL OF THE WORLD by Roger Scruton. Princeton, NJ: Princeton University Press, 2014. 216 pages. Hardcover; \$27.95. ISBN: 9780691161570.

“We live in an age of debunking explanations ...” So begins Roger Scruton in his fine book which aims to rebut reductionist (ultra-Darwinist, neurobiological) accounts of religion, the person, and the arts, and to clear a space for a search for the sacred. Scruton demonstrates the corrosive effects of scientism and offers a powerful challenge to this sort of thinking. Seeking to preserve the integrity of these three areas of meaning, he argues that they occupy a different

cognitive sphere, distinct, if not separate from, the impersonal, cause-effect realm occupied by the sciences. Borrowing a term from Husserl, he calls this sphere peculiar to humans, the *Lebenswelt*, “life-world,” a term which marks the space of first-person expressions of symbolic meaning. Here, the third-person perspective of the sciences is out of place, while reductionist claims are positively violent in what they ignore.

Central to his project of rehabilitating the *Lebenswelt* is his insistence that human beings are not only objects in the world (the province of science) but also subjects. As subjects, they enjoy the unique, first-person perspective of self-conscious agency. Through this first-person perspective, persons enjoy the privilege of making statements about themselves that are immune to challenge by others (p. 63). This privileged standpoint, says Scruton, is necessary for the possibility of dialogue with each other, since if we did not enjoy this privilege, “we would be always describing ourselves as though we were someone else” (p. 63). The first-person perspective simply does not exist in science since its project is to place all things under the rubric of impersonal, universal laws. Against scientism’s explanatory imperialism, Scruton seeks to retrieve the reality, integrity, and causal legitimacy of the *Lebenswelt*. This is especially present in his concern to appreciate the significance of the “I-You encounter” in which two subjects meet and the possibility of interpersonal dialogue opens up (p. 49). Such a meeting, says Scruton, implies the notion of accountability as each person struggles to know and be known, to give an account of what they lived for and why. While neuroscience is a powerful framework for exploring brain function, it is ill equipped to understand the nature or meaning of this first-person, qualitative exchange.

The ultra-Darwinist assumption that natural selection is the all-sufficient explanation applied, without distinction, to all living creatures is flawed, since, with *Homo sapiens*, there is “something new under the sun.” Here, a way of being has emerged from nature that eludes a purely biological category of explanation. To signal the nature of this new emergent, Scruton proposes what he calls “cognitive dualism.” He is not hearkening back to a Cartesian split between body and soul, fact and value. There is only one reality, says Scruton, but it is capable of being understood under two aspects: the impersonal, cause-effect mode of science; and the intentional, interpersonal mode of human beings. These are two orders of explanation. The two worlds are ontologically *continuous*, in the sense that the *Lebenswelt* emerges from the material world which the sciences