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uses Wilson's kin selection theory to help support his argument that blood-related family members would be likely to show more altruistic behaviors to one another, thus leading to more kindness and cooperation amongst the group. Yet, Wilkinson is aware that kin selection is controversial amongst some evolutionary biologists, so he also demonstrates that kinship is not required for altruistic behavior. He does this by citing additional research, including the experiments of psychologists Felix Warneken and Michael Tomasello who observed altruism in 18-month-old infants who happily helped adults they had never met before.

I was also impressed with Wilkinson's tact and objectivity when touching on potentially uncomfortable topics such as how to define "God" or the importance of strong marriages for the mental health of both children and adults in a culture in which many families have experienced divorce. Wilkinson's well-informed understanding of both sides of controversial issues appears to have made him an empathetic writer who is easier to read because he makes his points gently with the empirical evidence he brings to the table.

Wilkinson's *Purpose* has a significant and timely message for Western society in an era that is reeling from the cultural revolutions of the 60s and 70s that told us that lives of self-centeredness would make us happy. As self-absorbed individualism increased, commitment to relationships in families and communities decreased, leaving people emotionally disconnected, depressed, and anxious. Wilkinson's book is innovative in that it shows how evolution is coherent with the existence of a benevolent God. It is counter-cultural in an age that encourages meaningless sexual encounters, the abortion of our children, and selfish moral relativism. Lastly, Wilkinson's message is healing for those who wish to return a sense of meaning and purpose to their lives that comes only from deep and committed relationships with friends and family.

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PHILOSOPHY OF SCIENCE

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THE BLIND SPOT: Why Science Cannot Ignore Human Experience by Adam Frank, Marcelo Gleiser, and Evan Thompson. MIT Press, 2024. xvii + 328 pages. Hardcover; \$29.95. ISBN: 9780262048804.

Is it possible for a doctor to correctly diagnose a problem but fail to provide a useful cure? That is how I felt as I read this book.

The authors are respected scholars: two astrophysicists—one a Templeton Prize laureate—and the third a philosopher of science specializing in philosophy of mind. They correctly point out that all science begins with human

experience, which spurs measurement and abstraction. For example, we experience hot and cold, we then learn to measure temperature, and eventually we develop abstract mathematical models of temperature in terms of molecular kinetic energy or partial derivatives of energy and entropy. We experience color, we then learn to measure wavelength, and eventually we develop a theory of quantum electrodynamics. The authors do not oppose measurement or abstraction; this is how science progresses.

What the authors decry is that the starting point – human experience – gets pushed out of the center of scientific thought and practice, relegated as something to be explained (or explained away) as epiphenomenal. Just as our retinas have a blind spot which we do not see but is essential for vision, so, they argue, we have been trained to ignore human experience when doing science, even though human experience lies at the heart of science and makes science possible.

In the first two chapters, the authors note the contributions of ancient Greek philosophy and Abrahamic religion in the development of science. They celebrate the successes of classical physics from Galileo through the end of the nineteenth century. They also claim that the triumphs of mathematical abstraction in classical physics led to a scientific worldview (that is what they really call it) that embraces the "Blind Spot" way of thinking. They list its main ideas (pp. 5-7): (1) Bifurcation of nature into what is subjective experience (e.g., color) versus what is objective and external (e.g., wavelength), (2) Reductionism-thinking of complex systems as fundamentally nothing but arrangements and interactions of their components, (3) Objectivism - believing that science provides an objective, "God's-eye view of reality," independent of any observation, (4) Physicalism-believing that everything that exists is completely physical, (5) Reification of mathematics-thinking of our mathematical models as if they are what is truly real, the ultimate truth of the universe, and (6) Human experience as epiphenomenal-treating conscious experience as something (or the illusion of something) to be explained by neuronal activity, but fundamentally no more real than, say, a glowing image on a computer screen.

The authors claim that the "Blind Spot" has produced a "crisis of meaning."

On the one hand, science appears to make human life seem ultimately insignificant. The grand narratives of cosmology and evolution present us as a tiny contingent accident in a vast indifferent universe. On the other hand, science repeatedly shows us that our human situation is inescapable when we search for objective truth because we cannot step outside our human form ... (p. viii)

Thus, the authors, like scientists of many religious beliefs, diagnose problems with an atheistic-reductionistic interpretation of science. What they offer as a cure is not a

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theistic worldview that provides significance for humans and a place for the practice of science. Instead, they argue that a cure can be found through alternative atheistic worldviews, ones which focus on human experience at the center of science and other parts of life.

In chapters 3–8, the authors describe several scientific fields in which they believe the "Blind Spot" has led to scientific paradoxes and problems, slowing down scientific progress. Humans experience time as unidirectional. We learn to measure time with clocks. We then develop physics theories of particle interactions in which the mathematical abstraction of time is reversible. This seems to create a problem. Time's direction reappears in physics, not at the most abstract, microscopic reductionistic level, but by looking at the big picture of many particles, the growth of entropy, and the overall narrative of the universe that this produces. The "Blind Spot," by reductionism and reification of mathematics, points science away from some of time's most crucial features.

Humans experience interactions with a world of matter. In reductionistic theories of matter, human experience is taken out of the picture. But quantum theory, especially quantum measurements and the apparent "collapse of the wavefunction," currently has several competing philosophical interpretations. In contrast to the "Blind Spot" way of thinking, some of these interpretations put human experience back to playing a central role in explanations.

Humans experience a cosmos that appears to have a beginning. The "Blind Spot" way of thinking insists that science should encompass all objective truth, and it does not accept that our scientific theories are models with limits and boundaries. Unsatisfied with such limits, the "Blind Spot" catalyzes not only the creation but also the acceptance of a variety of multiverse theories which deny a beginning-intime, at the cost of piling on many untestable assumptions.

Humans experience life and we experience cognition. Reductionism looks for explanations of life and cognition only in terms of how the tiniest pieces (cells, molecules, particles) are arranged and interact. In doing so, the "Blind Spot" misses the fundamental phenomena of living organisms as having autonomy and agency.

Humans experience consciousness as irreducible and fundamental to how we encounter the world. Physicalist thinking treats consciousness as an epiphenomenon whose apparent existence must be explained scientifically only in terms of brain activity. Yet consciousness has existential and cognitive primacy, prior to any scientific studies we do. Moreover, the knowledge we gain by doing science comes to us only via direct experience.

In chapter 9, the authors lay blame for the growing climate crisis on the "Blind Spot." While acknowledging that the growth of science is interwoven with history, economics, and politics, they argue that the "Blind Spot" manifests in all those areas by encouraging humanity to exploit the natural world. (Although, it could be noted, some neolithic cultures – centuries before modern science or economics – thoroughly harmed their local environments, while other cultures lived sustainably for centuries. The critical difference in those cases does not appear to be the "Blind Spot" identified by the authors.) To counteract these environmental harms, the authors encourage using the non-reductionistic tools of complex systems analysis that consider humans as part of the system.

The "Blind Spot" way of thinking, as the authors have identified it, does seem to be fairly common among scientists, and more generally among science-minded individuals. But have the authors identified a unified theme that is a source of paradox and crisis across multiple fields of science? Or have they instead identified a few fields of science which have ongoing controversies—each of which will be debated and resolved within its own field—and imposed a unifying meta-narrative of crisis that does not really explain each individual case? The authors believe the former, but by the end of chapter 9, I found myself thinking the latter.

This book might appeal to Christians who discuss philosophical and religious ideas with science-minded individuals whose worldviews tend toward physicalism and reductionism. The authors have usefully described the "Blind Spot," and some of the problems to which it contributes, in ways that might catch the attention of some nonreligious scientists, because the authors' arguments do not come from theistic presuppositions.

The authors do not claim to have developed a comprehensive philosophical framework to replace the "Blind Spot." They call attention to it. They ask scientists and philosophers to work together to create a new framework for science—one which is still fundamentally non-theistic—but which no longer sidelines human experience and instead incorporates it as being primary in the generation of knowledge.

Have they offered a pathway to cure the "Blind Spot"? When I was a scientist-in-training at a Christian college, I was offered something different – a religious worldview in which science played an important role. To counteract objectivism and reification of mathematics, I was taught a critical-realist view in which scientists not only believe that there is a reality beyond their perceptions, but also humbly accept that their best theories are not objective truth but are human-created models which continually need improving. (The authors would not disagree with a critical-realist view of science, but their prescription focuses more attention on the centrality of human experience than on humility.) To counteract radical reductionism, physicalism, and treating human experience as epiphenomenon, I was taught that science is compatible with multiple religious worldviews, and compatible with Christianity in particular-a world-

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view that admits multiple sources of knowledge besides science. To counteract some of the harms caused by treating the environment reductionistically as a mere resource, I was taught to think vocationally, with science as a useful tool for achieving some of the broader goals which my Christian worldview said were important. Based on my experience, I think this provides a more therapeutic prescription.

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CONSCIOUSNESS AND MATTER: Mind, Brain, and Cosmos in the Dialogue Between Science and Theology by Kirill Kopeikin and Alexei V. Nesteruk, eds. Pickwick, 2024. 262 pages. Paperback; \$35.00. ISBN: 9781666776997.

This is a notable interdisciplinary volume that tackles the complex relationship between the mind and body, exploring it within the broader context of dialogue between science and theology. The collection draws heavily from Eastern Orthodox theological frameworks, using patristic language and thought to engage with the central theme of the mind-body problem. It aims to offer a theologically informed critique of materialistic naturalism and reductionism in the scientific study of consciousness while providing new avenues of thought by integrating theological perspectives. In this review, I will give a brief overview of all nine essays but, more importantly, I will focus on the unifying arguments across the volume and highlight the essays that offer the most significant contributions.

The book's contributors come from academic traditions centered in Eastern Europe, primarily Russia and Greece. Each author's expertise combines scientific, philosophical, and theological perspectives demonstrating impressive multidisciplinary competency and synthesis. While the perspectives vary, their common theological foundation, Eastern Christian thought, provides a cohesive thread. The editors successfully bring together essays that engage with the "hard problem of consciousness," challenging the adequacy of materialistic and reductionistic explanations of mental activity and offering both scientific and theological alternatives.

The essays are organized around two primary approaches to understanding consciousness: one that moves from the brain outward toward the cosmos, and another that begins with the phenomena of consciousness and works inward to the material. This dual structure, as outlined in the introduction, allows for an engagement with consciousness that respects both the microcosmic (individual brain activity) and macrocosmic (the relationship between consciousness and the cosmos) dimensions of human experience. Both approaches, however, are united in their rejection of materialist reductionism and their embrace of various forms of dualism—whether it be the classical Cartesian division of mind and body or theological distinctions such as creator and creation.

The first four chapters take a critical stance toward the reductionist paradigm of materialism. Tatyana Chernigovskaya's opening essay sets the tone by exposing the limitations of artificial intelligence and neural network models in accounting for the full scope of human subjectivity. Chernigovskaya argues that "meanings are more important than algorithms and structures" (pp. 5,7). In other words, the richness of human experience depends on the phenomenological and cannot be reduced to parallel physical processes alone. The critique of materialist reductionism is carried forward by Kiryanov in chapter 2, highlighting the unnecessary metaphysical assumptions that underlie much of contemporary science's dependence on ontological reductionism. Alexander Kaplan's contribution in chapter 3 continues this trajectory by exploring the way in which individual brain activity contributes to the creation of mental models that shape how a person inhabits the world. Each of these chapters points to the insufficiency of any approach that seeks to explain consciousness solely in terms of material phenomena.

A particularly innovative contribution comes from Kavokin in chapter 4, where he introduces quantum mechanics into the discussion of consciousness. Kavokin draws on the condensation of polaritons and the superfluidity of polariton condensates – where light-matter particles enter a unified quantum state, moving together without resistance like a frictionless liquid – to suggest that quantum states may influence the operations of human thought. He links this theory to biblical metaphors of light, proposing that the exciton-polariton model could offer insights into free will and determinism. However, while this quantumbased synthesis is imaginative, it risks overextending itself by drawing speculative theological conclusions from scientific data.

The second half of the book shifts toward a more cosmological approach, with chapters 5 through 9 examining consciousness in relation to the broader cosmos. Alexei Nesteruk's contribution stands out as particularly significant in this section. Nesteruk brings together cosmology, theology, and phenomenology to frame consciousness as a reflection of the universe's complex structure. Addressing the "hard problem," he bridges the dual nature of first-person subjective experience with third-person objective observation. Nesteruk uses patristic theological concepts like hypostasis (the unique, individual expression of a nature or essence in a distinct, relational form) to account for the interplay between the microcosmic and macrocosmic dimensions of the person, offering a profound theological and patristic reframing of the study of consciousness.

Kirill Kopeikin's essay in chapter 6 builds on Nesteruk's insights by integrating theological concepts, such as *creatio*