neither of those Greek philosophers could adopt). Stump is a philosopher to the core of his being, integrating and balancing insights from across history, as he is a Christ-follower to the very same core.

As I was reading, I thought of Gregory of Nyssa, a fourth-century Cappadocian Father who also balanced ancient philosophy with the science of his day. To my delight, Gregory showed up later in the book. Stump devotes chapter 17, "Bones and Relics," to Gregory's bones (which are apparently in San Diego today) and to Gregory's arguments about body and soul, which are "surprisingly modern-sounding" (p. 164). Gregory wrote his work, "On the Making of Man," that Stump cites as a direct response to Plato's *Timaeus* and Galen's physiology, so that Gregory too was integrating insights from philosophy and science into the light of faith. Gregory's inclusion in Stump's narrative is apt, and it shows that Christians have been writing books like this for a very long time.

In the fifth and final part, "Pain," Stump asks weighty questions about evil and suffering, which he ultimately addresses with scripture. This section has the most darkness and the most light, as it moves from the evil of eugenics to the hope of Romans 8. Stump states provocatively that "evolution is not random" (p. 213) and that cooperation points to a "clear directionality in how life has developed" (p. 214). He quotes Simon Conway Morris to the effect that life evolves with "an underlying melody" (p. 214), which happens to coincide with musical metaphors commonly used by Gregory of Nyssa. This is new and fascinating science, which is not merely compatible with, but can be driven by, a millennium-old faith. Stump doesn't have room for much detail, but his book opens a door to a world of investigation. The reader might use these citations as a springboard to find out more about the positive contribution faith can make to the study of evolution.

This book is especially targeted at those who, like Stump, grew up in faith communities and feel dissatisfied with the status quo of skepticism, whether that of young-earth creationists skeptical of evolutionists or that of materialists skeptical of faith. In his account, Stump spends the most time on time itself (arguing that we live in a very old universe) and on human evolution (arguing that a material account of the origins of the body is not incompatible with the experienced reality of the human soul).

Most of Stump's book argues a double negative—"not incompatible"—that allows a Christian to accept science but does not emphasize how science might be changed by faith. Near the end, Stump points to positive synergies between science and faith, and to other authors who have explored the same questions, from Gregory of Nyssa to Simon Conway Morris. These connect to a whole literary universe of other authors, each of whom has a slightly different answer to these big questions.

Stump's questions penetrate to the heart of the matter, inviting the reader to participate. His summaries of philosophical debates are both balanced and crystal clear (such as why symbolic reasoning is "qualitatively different" [p. 121] from what came before). He demonstrates a posture of openness rather than of defensive skepticism.

God can work through this book. A Christian with a negative or conflicted view of evolution may be convinced by Stump's patient and thoughtful narrative, especially if they are wrestling with questions of deep time and if they value direct experience in specific places. If they walk along with Stump, they too might end in a place of "sheer, unadulterated hope" (p. 247, quoting Bill Newsome).

Reviewed by Benjamin J. McFarland, professor of biochemistry, Seattle Pacific University, Seattle, WA 98119.

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

PURPOSE: What Evolution and Human Nature Imply About the Meaning of Our Existence by Samuel T. Wilkinson. Pegasus Books, 2024. 352 pages. Hardcover; $29.95. ISBN: 9781639365173.

As a scientist and a theologian interested in the science-faith discourse, it was a privilege to think through issues regarding human meaning, purpose, and flourishing raised in Samuel Wilkinson's book. Wilkinson received his MD from the Johns Hopkins School of Medicine and is currently an associate professor of psychiatry at Yale University. Like many of us, Wilkinson has struggled with the question, "Is belief in a benevolent God weakened by the theory of evolution?" Fortunately for the readers of this excellent book, Wilkinson challenges familiar claims about the meaninglessness of human existence with a well-organized presentation of interdisciplinary evidence supporting the author's thesis that the purpose of human existence is to choose between our competing natures: the good and the evil.

Wilkinson begins his work by pointing out two overarching dilemmas caused by the theory of evolution that must be addressed. The first is the "doctrine of randomness," which claims that if evolution is a random and haphazard process, then human existence is merely a product of intricate molecular accidents and is consequentially meaningless. The second dilemma is related to the negative evolutionary characteristics associated with human nature, particularly genetic determinism, aggressiveness, and selfishness. These are frequently cited to show the unlikelihood that human beings were created by a loving, benevolent God.

In response, Wilkinson uses evidence from the fields of genetics, biology, ethology, sociology, psychology, and economics to paint a different view of evolutionary processes and human beings. By weaving insights from these varied sciences together, Wilkinson persuasively suggests that a Higher Power used evolution as the mechanism to

create all life, and that human beings have been uniquely equipped to choose between our two competing natures of selfishness and selflessness.

Wilkinson organizes his argument into five main principles which are expanded throughout the book. First, evolution has only the appearance of randomness, because the evolutionary record repeatedly demonstrates a directionality known as convergent evolution. Citing the work of paleontologist and evolutionary biologist Simon Conway Morris and others, Wilkinson shows that while nature may use separate evolutionary pathways for plants and animals to adapt to their unique environments, these pathways repeatedly converge upon the same basic forms, structures, and functions. For example, wings evolved differently in birds, bats, and butterflies; echolocation evolved in land animals such as bats, birds, and shrews as well as in aquatic creatures such as dolphins and toothed whales; and C4 photosynthesis evolved independently among different species of land plants over 60 different times. Consequently, convergent evolution suggests that there are higher-order natural laws that compel the evolution of more highly sophisticated organisms, rather than haphazard random processes alone; this would be compatible with a Higher Power which uses the laws of evolution to create all life.

Second, nature has created competing dispositions within human beings: selfishness and altruism, aggression and cooperation, lust and love. Because human beings have evolved to be both socially generous and self-protective, Wilkinson's discussion helps the reader understand how both the positive and negative characteristics of humanity would have been beneficial for the survival of our species and describes this as the dual potential of human nature.

This leads to the third principle: free will is a key aspect of human nature and enables human beings to choose between the good and evil dispositions within us. Wilkinson persuasively argues that the case for genetic determinism has been overstated. This view claims that humans cannot exercise free will because their choices are determined by their genetics, their brain-body chemistry, and/or their environment; humans are like machines whose brain outputs are determined by the sum of the inputs. Wilkinson counters this argument using the concept of emergence, where evidence shows that the whole often has properties that are greater than the sum of its parts. He also reminds the reader that the rules at one level of reality are often not true at other levels of reality. For example, while quantum mechanics shows that the behavior of matter at the subatomic level is notoriously indeterministic, Newton's laws of motion show that the behavior of matter at the human level can be described with a high degree of deterministic predictability. Yet, when studying the behavior of animals with the simplest brains (e.g., fruit flies, leeches, and microscopic roundworms), researchers discover that their behavior is remarkably indeterministic. Therefore, it would be an oversimplification to assume that the output of human thought and behavior is nothing more than the product of what was eaten at breakfast. Wilkinson strengthens his point further by discussing the large body of psychological research showing that humans consistently and measurably influence and improve their outcomes to the degree that they choose to focus their mental energy on a goal. In other words, because research shows that conscious thought can affect behavior and outcomes, it strongly suggests that human beings do have the causal mental control necessary to make choices over their own behavior, otherwise known as free will.

The fourth principle Wilkinson shares is that strong family relationships are key to the Good Life. During difficult periods of evolutionary history, human beings were most likely to survive if they had strong relationships and were part of a close-knit group. As a result, humans became hard-wired for forming and maintaining deep relationships, especially with those they are genetically most closely related to—their family members. Psychological studies show that adults with strong familial relationships have greater happiness, life satisfaction, sense of purpose, and mental and physical health than those without such relationships. According to Wilkinson, this is how God has evolutionarily rewarded people who have accepted the responsibilities of parenthood.

Wilkinson's fifth principle is that strong family relationships are key to the Good Society. He explains that family life is nature's strongest way of helping us to choose our better natures, biologically driving humans toward the positive attributes of love, trust, loyalty, and kindness. These in turn benefit the broader community in two ways. First, parenthood redirects men's aggressive tendencies, deflecting them toward prosocial ends. Second, such environments produce better outcomes for children. Wilkinson uses sociological studies to show how marriage and engaged fatherhood lead men to adopt more altruistic and cooperative attitudes and provide safe and supportive environments for children to mature and pass down their genetics, simultaneously benefiting society. Therefore, Wilkinson concludes that rather than being a random meaningless process, evolution was God's mechanism for creating all life and shaping human beings through deep relationships in order to choose their better natures.

I found Wilkinson's arguments very robust because he doesn't rely on just one field of study to build his case. He cites research from genetics, biology, ethology, sociology, psychology, and economics to present a fresh and well-reasoned understanding of evolution and human nature that resonates well with belief in a benevolent Creator God. Furthermore, he includes viewpoints and research from voices who are not usually friendly to theism, such as Sam Harris and E.O. Wilson. For example, Wilkinson

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.

Reviewed by Victoria Campbell (PhD, PhD), scientist-theologian, deacon in the Global Methodist Church, Katy, TX 77494.

Philosophy of Science

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

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