is familiar with Harold Kushner's work, *When Bad Things Happen to Good People*, and he finds common ground with the Rabbi, who experienced deep suffering from his own son's disease. Both view God as not personally responsible for human suffering from natural evils since God created a world in which free will is possible and thus random and chance events will take place.

McAvoy takes the reader through exciting findings of modern cosmology, that is, the confirmation of the big bang. Studies of cosmic microwave background radiation allow us to infer the earliest moments of the universe, beginning in a hot, dense state, rapidly expanding and cooling to yield a cosmos in which star and planet formation could take place only if many factors were finely tuned. Appealing to a multiverse to explain the fine-tuning is not very convincing to McAvoy, who claims that "God's design imperative" is a better explanation. In other words, he sees Christian belief in a Creator God aligning much better with scientific findings than appealing to numerous undetectable universes.

The most interesting part of the book for me is the discussion of biological evolution. It is obvious that McAvoy is well read in this area. He begins by critiquing Harvard paleontologist Stephen Gould's claim that if the history of evolution could be re-run, it would most likely not result in intelligent life. McAvoy is strongly persuaded by biologist Simon Conway Morris's arguments of convergent evolution. Morris holds that evolution is a process that leads inevitably to certain features, including intelligent life. McAvoy rejects Daniel Dennett's claim that evolution is a purposeless algorithm. Amazingly, he finds himself in agreement with Richard Dawkins on the claim that moral altruism arises naturally out of the evolutionary process. Unsurprisingly, he finds much in common with Michael Ruse, author of *Can a Darwinian Be a Christian?*, and who is quite critical of Dawkins's narrow views of Christianity. McAvoy's engineering mind leads him to emphasize that there are tradeoffs in a universe that allow free will, and one of those will be natural evil or human suffering. This is part of the "design imperative" view he emphasizes. For him, biological evolution fits neatly into this view.

McAvoy digresses to discuss intelligent design (ID), focusing on two competing authors: Michael Behe and Kenneth Miller. Behe is one of the best-known proponents of ID and has used the concept of irreducible complexity to argue in favor of design. Miller is a well-known proponent of theistic evolution and a critic of Behe. McAvoy finds Miller far more compelling and in alignment with his own views. He focuses on the example of blood clotting as an extremely complicated biological process that appears to be irreducibly complex. Yet Miller uses the work of molecular biologist Russell Doolittle to show how it could have evolved. Furthermore, the presence of pseudogenes in our DNA supports an evolutionary scenario and makes ID an unsatisfactory approach. McAvoy concludes that ID is not a valid science.

He then discusses how God intervenes in this world, often in ways that involve spiritual matters and rarely by overriding natural laws in the form of miracles. McAvoy claims that the latter must be rare for us to truly be creatures that have free will. He argues that if God often performed miracles, we would depend on those instead of accepting a natural world governed by physical laws and principles. His digression on free will and quantum indeterminacy is meant to establish how determinism is not possible in this universe. The fact that the microscopic realm is governed by probabilistic rules, rather than deterministic ones, allows for nondetermined outcomes, and thus allows for free will and limits how God interacts in the world. This argument is a bit unsatisfying to me, since it does not consider the role of our minds and consciousness, which still defy adequate scientific explanation. Nor does it allow for God interacting in other ways that we cannot understand. McAvoy is not a deist, but he does appear to limit how God works in this world.

I also found that the final two chapters on miracles diminish the thrust of the book, rather than add to it. While McAvoy wants to show that there is scientific evidence to support miracles having taken place, his choices of the Shroud of Turin, Our Lady of Guadalupe, Eucharistic miracles, and others reveal his deeply Catholic perspective and give a parochial twist in the book. I can appreciate that miracles have indeed occurred, because I am already a Christian who believes in miracles. But I doubt that skeptics will be impressed by the chapters on miracles. Most Christians believe that the greatest miracle is the Resurrection and our resulting salvation through faith in Christ. The author may agree, but that gets lost in his focus on other matters. McAvoy concludes by emphasizing once again the "design imperative" and how all the scientific evidence presented affirms it. God is the grand Geometer who designed this universe and science affirms faith in him. Overall, I recommend the book as a worthwhile read for anyone interested in science and faith and particularly in the topic of human suffering.

Note

[1]Joseph Shigley et al., *Mechanical Engineering Design, 7th ed.* (McGraw Hill, 2004), 5.

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THE ROAD TO WISDOM: On Truth, Science, Faith, and Trust by Francis S. Collins. Little, Brown and Company, 2024. 288 pages. Hardcover; $27.00. ISBN: 9780316576307.

Even though Francis Collins has a PhD in physical chemistry from Yale University, an MD from the University

of North Carolina at Chapel Hill, was the director of the Human Genome Project, and served as the director of the National Institutes of Health for 12 years under three presidents, to anyone who knows him, he is just "Francis." Approachable and humble, Collins is an active member of the American Scientific Affiliation.

While serving in these influential roles, Collins made time to speak and write widely. His 2006 book *The Language of God: A Scientist Presents Evidence for Belief* received widespread acclaim and thrust him into the public as a foremost spokesperson for the compatibility of Christian faith and science. It also coincided with his founding of the BioLogos Foundation in 2007. His winsome personality and understated intellect disarm critics and engage listeners and readers. But the COVID-19 pandemic challenged and tested Collins in new ways, beyond the resistance he had met previously as a leading scientist and Christian believer. This elevated Collins's concern about the need for wisdom in these unique times. *The Road to Wisdom* is his response and guidance for how to live as a thoughtful Christian in today's contentious world.

In this book, Collins develops an argument that political discourse in the USA has become divisive and has abandoned wisdom. In his estimation, the road to wisdom requires four goods: truth, science, faith, and trust. One might add other goods to these, but Collins makes a good case for how important these four are.

First, Collins makes the case that scientific and spiritual truth are available to all who are willing to pursue it humbly and earnestly. To illustrate this, he uses the metaphor of a spider web of truth to illustrate varying degrees of confidence. The strongest and most tightly woven threads in a spider web are at the center and lessen in strength as they widen and move outward. Similarly, we hold different levels of truth with different levels of confidence. The spider web moves from necessary truth in the center (2+2=4), then outward to firmly established facts (the earth is round), uncertainty (dark matter), and finally to opinion (dogs make better pets than cats). This typology of levels of certainty in what we consider true is a helpful framework for guiding discussions on complex topics. This section brought to light for me the different views Christians have about the role of extra-biblical information in determining truth. Collins has opened an important topic that invites further exploration.

Second, Collins defends science as a time-tested and powerful method for separating truth from falsehood. He expresses significant dismay at the level of distrust in science that has emerged in the USA in recent years, given the degree to which science benefits every person's life every day. Collins gives examples of mistakes scientists, including himself, have made, but he maintains that the peer-review process of the scientific community is able to guide the work of science appropriately. This chapter becomes quite personal, as Collins defends his response to the COVID-19 pandemic, while acknowledging his own errors. As an epidemiologist who was active in mitigation measures during the pandemic, I shared Collins's angst about how things unfolded. Critics might find him to be somewhat defensive; I found his argument compelling.

Third, Collins makes the case that faith is necessary for wisdom. Faith can illuminate vital transcendent truths. In this chapter, Collins freshens up views he has previously developed in his other books: *The Language of God* (2006); *The Language of Life: DNA and the Revolution in Personalized Medicine* (2010); *Belief: Readings on the Reason for Faith* (2010); and, with coauthor Karl W. Giberson, *The Language of Science and Faith: Straight Answers to Genuine Questions* (2011). From the section beginning with "What do atheists think of all this?" to the end of the chapter, Collins considers issues such as doubt, uncertainty, and the opportunity for a renewal of confidence in the veracity of authentic Christian faith. He is cautiously hopeful that a renewal of Christian faith is possible.

Finally, Collins explains that trust must be earned. This is done by showing others that you recognize the preeminence of truth, while humbly acknowledging your own limitations. Collins describes the four elements that he believes create trust: integrity, competence, humility, and aligned values. Some readers might find Collins to be defensive of the actions taken by himself and Dr. Anthony Fauci during the COVID-19 pandemic, but I found his explanation to be persuasive. Beyond COVID-19, other examples of how science has successfully answered scientific questions, and thus built trust in the scientific method, are particularly helpful in this book.

One question that remains vexing is how to handle disagreements based on fundamentally different views of how we know what we know. Collins's noble goal is that if we respect each other, and listen, we can lessen the acrimony and build understanding. But some people are holding tightly to dangerous views that are built on non-truths—e.g., that the risks of some vaccines outweigh their benefits, or that climate change is a hoax. This book is a good start to address the problem of deeply held disagreements, but there is much work to be done.

The Road to Wisdom will appeal to most readers of this journal. It is written at a level that does not need advanced knowledge of science or theology. I studied this book in a small group; this approach enhanced its value and increased comprehension. Incidentally, the high-quality illustrations included in the book were created by Collins's granddaughter. This book is another excellent contribution by Francis Collins, and it comes at a very important time.

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