Lightman and Rees are at their best describing the lives of scientists. Reading about these individuals' hopes, dreams, struggles, and even their failings, connects us with these scientists. In addition to numerous historical biographies, Lightman and Rees interviewed five currently active scientists from a wide variety of backgrounds. Often writing in the manner of a travelogue, our duo describe the experience of meeting with their fellow practitioners. At times, readers feel as if they are at tea, listening in on conversations. We see real people. One physicist confesses, "Physics is not the most fun thing I do … sometimes it is very frustrating" (p. 79), before sharing a love of rock climbing. Another featured scientist was inspired in her pursuits by growing up in a disadvantaged community and now researches topics that could help her neighborhood. The authors capture their subjects' "humanness" well, and illustrate that the practice of "disciplined wonder" is open to anyone.

The Shape of Wonder would be a wonderful gift for scientifically inclined students and mentees or someone considering a career in science. It offers a warm introduction to the life and practice of science. However, the book does have its weaknesses. The authors missed an opportunity to explore scientists motivated by faith. They briefly mention physicist Don Page's work in speculative cosmology and casually note that he "retained his fundamentalist beliefs" (p. 95). From the context, the authors seem to be perplexed by an evangelical Christian in physics. I was disappointed that they chose not to interview Page or another scientist from a faith background since "wonder" is an integral part of Christian faith and practice. Such a discussion could have further broadened not only the discussion of wonder in the book, but also the audience for it.

The weakest section was their discussion of ethics and public policy. Lightman and Rees were motivated to write because they perceive a growing distrust of scientific opinion in debates on the environment and public health. Public trust is essential in grappling with the complicated challenges we face in public policy. We need reliable and trusted voices to provide their expertise. At this point, the authors attempt to grapple with the possibility that scientific findings can lead to both good and evil results. They confess that "sometimes it is not easy to define the good" (p. 166). They go on to state, "Our view is that science and the technology resulting from science do not have values in themselves. It is we human beings who possess values. And we should employ those values in how we use science and technology" (pp. 166–67). They conclude that good "probably meant … increasing the well-being-happiness, and quality of life of the largest number of people … and bad diminishes that well-being" (p. 167).

Utilitarianism is speciously attractive as a scientific approach to ethics since it advocates the collection of data and weighing the consequences. This approach can have significant unintended social results since "the greatest number" still leaves a vulnerable minority. The utilitarian view begs the question of what is "good." The authors should consider a broader exploration of ethics for applying scientific knowledge in public affairs. Public Administration scholar James Svara, for example, suggests employing multiple theories as an "Ethical Triangle" that examines policy from the perspectives of "Principles, Consequences, Virtue, and Duty"(p. 82).[1] By examining policy from multiple ethical perspectives, one is forced to ponder that a policy that seems to benefit the majority may not be "good" for all in society.

While the authors approach this work from materialist convictions, the concept of wonder is implicitly Christian. Sometimes it seems that the chasm between the materialist and Christian worldview is too wide to cross. Yet we share a sense of wonder about the world and universe in which we live. As the Psalmist writes, "the heavens declare the glory of God" (Ps. 19:1). When the marvels of the creation fill us with awe, one might just discover that wonder reveals the God-shaped hole in our hearts.

Note

[1]James Svara, *The Ethics Primer for Public Administrators in Government and Nonprofit Organizations*. 2nd ed. (Jones & Bartlett Learning, 2015).

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DESIGNER SCIENCE: A History of Intelligent Design in America by C.W. Howell. NYU Press, 2025. 296 pages. Hardcover; $35.00. ISBN: 9781479827671.

"Intelligent design" (ID) has been debated in the pages of this journal for decades, but *Designer Science* provides something unique: a long-form history of the century-long debate around this specific term. In this book, religion scholar C.W. Howell describes not the arguments themselves, but the intellectual, social, and legal dynamics around them. It provides a valuable resource for anyone who has participated in these debates, giving a historical perspective that individual journal articles cannot, although the author's own beliefs skew the narrative somewhat.

Howell writes his history as a tale of two trials: the 1925 *Scopes* "Monkey Trial" and the 2005 case, *Kitzmiller v. Dover*. Both were local proceedings that drew national attention, both were about education more than about science, and both were more important for their social impact than for their legal findings. Also, both split Christians, some moving away from a literal interpre-

tation of Genesis, others toward it. Chapter 1 ("The Creationists") traces the Christians before ID who were more literal interpreters of Genesis, and who split from other Christians after *Scopes*. Howell provides a fascinating history of the specific intellectual evolution of ID-specific ideas and terms in the 1980s.

Chapter 2 ("Design") tracks the emergence of ID as a distinct, titled movement, positioned as an alternative to both young-earth creationism and atheistic scientific naturalism. The literalism of the ID movement is not a young-earth timespan of seven 24-hour days, but Howell argues it is a literalism nonetheless. To Howell, ID's literalism is one in which living things are literally collections of machines, with the limitations as well as the advantages of machines. As an example of this, one ID proponent, Michael Behe, is quoted as saying that proteins like bacterial flagella are "literal machines" (p. 75). Behe argues that because machines cannot evolve and must be designed, then flagellar proteins must also have been designed. As a result, even ID arguments like Behe's take a mechanical form—a form that accepts many of the implicit, mechanical assumptions of atheistic naturalism.

Howell describes how ID's way of looking at science unfolded in the wider world in chapter 3 ("Politics"). Most prominently, ID proponents are associated with a politically conservative think tank, the Discovery Institute. In the 1990s, the political coalition brought together by the movement was broad and growing, but also fragile. Howell writes that "ID's nebulous nature made it popular and flexible; it also … made it vulnerable" (p. 118).

Chapter 4 ("Backlash") describes the second of the two trials, *Kitzmiller v. Dover*, which Howell describes as a defeat for the ID movement. Some ID proponents contest this, because associates of the Discovery Institute did not lead the suit, and some were discarded by the legal team or withdrew before testifying, with the most prominent exception being Michael Behe. Howell argues that the legal arguments were disorganized as a result. Under scrutiny, claims that ID was a scientific theory without religious content fell apart, including statements Behe made on the stand.

In Howell's telling, this second trial is critical. *Dover*'s legal rejection of ID arguments shifted the entire discussion away from the courts and toward discussion among Christians and atheists. An argumentative triangle developed among ID proponents, theistic evolution proponents, and the New Atheists. Howell believes the biggest split was among Christians, because the New Atheists shared some modernist assumptions with ID proponents. The rivalry between fellow Christians led to a hardening of the rhetoric from ID supporters. Howell proposes that "intelligent design continued to operate primarily as an offensively minded movement that was never able to make its disparate positions fully cohere" (p. 155). Material published in the 2010s "doubled down" on the previous arguments, and the center did not hold.

Chapters 3 and 4 are where Howell's own views (which he discloses at the beginning of the book) influence the historical account most. Howell himself is not a skeptic of the scientific consensus on evolution, which colors how he describes these conflicts. Instead, he is skeptical of the ID movement's own skepticism, and he defends the scientific consensus. Therefore, he magnifies the effect of *Dover* more than an ID proponent would.

Howell's position also influences his argument as he considers the legacy of ID in chapter 5 ("Aftermath"). Here he concludes that ID proponents' tendency to question the scientific consensus led to skepticism about vaccines and climate change, with negative effects. Yet he sees positive effects of this same skepticism, as it led to the Discovery Institute's Walter Bradley Center for Natural and Artificial Intelligence, established in 2018, years before AI usage became the challenge it is today. Howell sees a future in moving from machine-like conceptions of nature toward skeptical assessment of what machine-like conceptions can and should do, developing a nuanced, Christian approach to machine learning and other aspects of AI.

Designer Science is not for those considering ID arguments themselves, but for those who want to know one scholar's view of the long-term social and political context of the argument. Howell deliberately spends more time describing political and legal arguments than scientific ones and does an excellent job of this. His book is not just about tracing the creationist roots of ID arguments, but also the fruits of decades of skepticism of scientific consensus regarding evolution, both good and bad.

Overall, I think Howell maintains proper objectivity toward his subject despite his stated disagreement with the ID proponents he describes. Certainly, this book provides an opportunity for moving forward from the deadlocked rivalry between ID proponents and Christians who accept the broad outlines of evolutionary theory. In particular, the 21st-century questions concerning artificial intelligence might unite Christians who disagree over the 20th-century controversies about evolution. Howell's history offers directions by which we might grow together in our dissent from overly mechanical worldviews.

In summary, this book can be compared to Ronald Numbers's history *The Creationists,* but for the ID move-

ment rather than young-earth creationists. It is not as detailed as the history provided by Numbers, being half the length. However, *Designer Science* is more focused on the ID movement than the young-earth creationism movement, and it includes 21st-century developments such as the Discovery Institute's Walter Bradley Center. This gives me hope. Howell speaks from his own specific perspective about the history of the 20th century and, for the most part, models an objective stance for moving into the 21st century, with opportunities for former rivals to join together in the scientific activity of constantly questioning, evaluating the evidence, and seeking truth.

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THE EMPIRE OF CLIMATE: A History of an Idea by David N. Livingstone. Princeton University Press, 2024. vii + 534 pages, including notes, bibliography, and index. Paperback: $29.95. ISBN: 9780691236728.

The Trump administration announced in December 2025 that it would break up the National Center for Atmospheric Research, one of the premier facilities for weather and climate. Office of Management Budget Director Russell Vought explained that the center "is one of the largest sources of climate alarmism in the country."[1] Critics see this as one more effort by the Trump administration to bury the "inconvenient truth" of climate change and ignore the devastating effects it is likely to have in the coming century.

This reflects the general state of climate discourse in the United States. Climate change is either an existential threat that requires dramatic action, or a hoax used by the political left to justify regulation. There is little room in this debate for more nuanced questions and disagreements.

In *The Empire of Climate,* David N. Livingstone pulls readers out of this narrow debate to explore the idea of climate. It is a remarkably expansive and ambitious study. He writes:

> [M]y aim is to provide an outline chart of the realm I refer to as "the empire of climate." Since ancient times, the idea that the climate exerts a determining influence on minds and bodies, health and well-being, customs and character, war and health has attracted a long line of committed followers. (p. ix)

This book is a warning, first to scholars and secondarily to policy makers. Scholars, Livingstone argues, have too often conflated histories of the past and future: "chronicles of the past and histories of the future merge in claims about the impact of climate and climate change on human society" (p. 7). And they have often slipped into a reductive determinism that hides human agency, and therefore human responsibility. Here Jared Diamond's *Guns, Germs, and Steel* (Norton, 1997) receives considerable attention.

Livingstone works chronologically through four primary areas of climatic determinism: health, mind, wealth, and war. The consistent theme is that climate has been used to justify and expand power structures that favor white Europeans and North Americans. Since Hippocrates in the fifth century, climate has been a cornerstone of medical geography, "interspersed with moral judgements, evaluations of character, depictions of temperament, and assessments of intellectual aptitude" (p. 58). Tropical climates were described as places of moral and health hazards for Europeans. Indigenous peoples in the tropics were often described as morally degenerate, lazy, and feeble minded. According to this narrative, climatic variations made it inevitable that Europeans would dominate the globe intellectually, economically, and militarily.

Throughout, Livingstone draws on contemporary scientists, journalists, and climate activists to argue that climatic determinism is alive and well, here emphasizing climate change predictions that exude inevitability. He develops this most extensively in chapter 11, "Securitizing Climate Change," quoting Chris Huhne, a former British secretary of state for energy and climate change:

> The devastating impact that climate change would have on global food, water, and health meant that "unstable states" would become more unstable. Poor nations poorer. Inequality more pronounced, and conflict more likely. [This, Livingstone writes, is] a refrain echoing its way through the corridors of government, academia, and journalism. (p. 370)

Livingstone's warning is timely, indeed necessary. Framing climate change as an inevitable crisis has potentially dangerous consequences. The more dire and complex the crisis, the more tempting it is to consolidate power and advance a "solution." It is essential to consider how climate has been used in the past to justify racism and slavery, economic exploitation, and other injustices or we run the risk of reproducing those injustices in our quest to slow climate change.

Livingstone acknowledges at the outset that in writing "an introductory guide to a vast terrain," the book "no doubt suffers from the weaknesses of every mapmaking venture: silences, selectiveness, subjectivity" (p. ix). For example, Livingstone focuses almost exclusively on European and American men. But these do not undermine the book's considerable contributions.