

Using the “click” metaphor, Schaefer explains how individuals align with information that “feels so good” (a common phrase used in the book). This *good feeling* grounds his cogency theory—the idea that we feel our way to knowing. He believes we cannot separate feelings from understanding because the two concepts are inextricably joined. To develop his theory, Schaefer appeals to Michael Polanyi’s *post-critical* understanding of the subjectivity involved in knowledge making, Thomas Kuhn’s concept of *incommensurability* arising from the biases brought into science by autonomous individuals, Nietzsche’s ontological perspective that we make our own realities based on personal experiences, William James’s fallibilist belief that all views are subject to fallibility, and evidence from science and technology studies (STS) that knowledge emerges from lived experiences. He further explains that the feelings involved in knowledge making can readily influence our willingness to accept scientific or biblical evidence—such as those associated with evolution, creation, climate change, and racism.

As Schaefer transitions to Feeling Science and Secularism, readers become aware of the pros and cons of the *click* that drives knowledge making. On the one hand, deriving joy from a topic or a task drives us to learn more, continuing the search for higher levels of understanding. On the other hand, this same joy can also pigeon-hole us into the same ways of negative thinking, as held by those who partake in conspiracy theories, racialized reasoning, climate denialism, and the age-old debate between evolution and creationism. Part II begins by detailing the historical background of the Darwinian era and the controversies that inherently arose within the church. Bringing in cogency theory, Schaefer points out that the feelings associated with religious values (creation, in this case) or scientific evidence (evolution, in this case) can cause us to dig our feet into the sand and refute someone with the same passion we each feel for the subject(s).

How does society breach this barrier and advance when feelings are so strongly held and difficult to address? Schaefer points out that good science employs a healthy system of checks and balances which keeps emotions in check and emboldens an ardent desire to find the truth. This checks-and-balances system embodies what David Hume refers to as “cool passions” and William James as the “nervousness about error” (p. 36). Schaefer suggests Hume’s “cool passions” are a drive for knowledge, which is tempered by a desire for truth, and James’s “nervousness about error” represents a healthy fear of being wrong, so one strives to “shun error!”<sup>2</sup> However, providing more evidence on a topic will not necessarily bring unity because two people can analyze the same evidence in many diverse ways. Understanding and appealing to the feeling individuals embrace are the keys to unification. We must have a willingness to listen to

the “out-group” and try to find “shared vibes,” (Schaefer quoting Jose Estéban Muñoz [p. 224]).

As Christians made in the image of God, we are fearfully and wonderfully made, knitted from the core of our being by a loving creator from our mother’s womb (Ps. 139:13–16). The thought of being “knit” by our creator suggests craftsmanship in which no two creations are identical. Thus, we could surmise that cogency theory somewhat aligns with our personal identity in and from Christ. We each have our own spiritual gifts, life experiences, and nonnegotiable values which we bring to the table to *mess with* (another common phrase in the book) our interpretations of information. It is our duty as Christians, however, to take accountability for our thoughts and actions and respond to information by following the scriptures. If we remain faithful, limiting emotion as much as possible, we might overcome some of the political and societal challenges we face, as well as issues related to creation care and climate change. I hope that by understanding Schaefer’s cogency theory we can more effectively communicate information to a broader audience, inspire people to become more accepting of “others,” and become better able to understand how others think and believe.

One observation: *Wild Experiment* has a wealth of information. It covers the complex and interdisciplinary nature of many topics in the social sciences, theology, biology, and history. While I believe Schaefer did his best to condense information, the onus is on the reader to do some additional background reading. I recommend this book for anyone interested in epistemology, behavioral science, STS, or anthropology. It provides a context for knowledge making that most social science and social-science related researchers will find interesting.

## Notes

<sup>1</sup>Donovan O. Schaefer, “The Territories of Thinking and Feeling: Rethinking Religion, Science, and Reason with Alister McGrath,” *Zygon* 57, no. 1 (2022): 200–222.

<sup>2</sup>William James, *The Will to Believe and Other Essays in Popular Philosophy* (Longmans Green, 1907), 18.

Reviewed by Rebecca Eagle-Malone, assistant professor of biology, Malone University, Canton, OH 44709.

## HISTORY OF SCIENCE

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**POWER AND PROGRESS: Our Thousand-Year Struggle over Technology and Prosperity** by Daron Acemoglu and Simon Johnson. PublicAffairs, 2024. 560 pages. Paperback; \$21.99. ISBN: 9781541702547.

In this book, two highly acclaimed MIT economists, and Nobel prize winners, make the bold claim that technological progress does not automatically result in

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prosperity for all. This is contrary to the claims of what they call the “technology bandwagon,” founded on the economic dogma arising from the rise in productivity and wages that occurred over the 20th century. Put simply, this dogma states that “when businesses become more productive they expand their output” which results in “a need for more workers” so they “get busy with hiring” and “collectively bid up wages” (p. 15).

To make its case, the book examines the relationship between technology, wages, and inequality over a thousand years with a view to determining what needs to be done to ensure that all parts of society share in the prosperity arising from innovation. From the opening chapter, it is clear that the authors are concerned about the current direction of digital technology, especially AI and its control by an elite few in Big Tech, what they term “a vision oligarchy” (p. 33) that needs to be “reigned in” (p. 34). Anyone interested in the ethics around technological development and its consequences on society, particularly recent developments in AI, will be interested in these perspectives.

Interpreting the economic and social data over a thousand years through to the present, the authors show how the economic prosperity of the post-World War II years was an outcome of a long struggle over the direction of technological progress and a balancing of power between employer and employee. Various examples are cited by the authors to justify their view that to create an economic elite involves a compelling vision and a social standing that affords opportunity to frame and set the agenda for debates on innovation, prosperity, human flourishing, and how to solve the world’s big problems. The influence of the powerful becomes self-perpetuating if they have access to influence policy makers and if their ideas and arguments are persuasive and have broad appeal.

Many illuminating economic facts are employed throughout the book. Typical is that, apart from famine years or other disturbances such as war, food production remained roughly in line with population growth until the early 19th century, and that, despite the innovation of the middle ages, the quality of life of a European peasant changed little over several millennia. Productivity improvements benefited a very small elite of kings and their retinue, nobles, and the clergy.

Turning to the Industrial Revolution, the authors claim the poor did not share the wealth generated through technology innovation because of the bias in automation which favored those wealthy enough to purchase machinery and because of the lack of worker representation in setting wages. They also argue that the “aspirant” class in this period focused on accumulating wealth for themselves and did nothing to alleviate the appalling conditions in the first half of the 19th century. In making

this claim, a glaring omission in the authors’ analysis of the 18th and 19th century in Britain is the influence of evangelicals in the reform movement, such as the Clapham Sect, and businessmen, such as Cadbury, who conducted his business differently to most, providing homes for his workers and education for their children. This omission is surprising given that these evangelicals shaped institutions and public opinion in ways that the authors view as crucial to bringing about a change of vision in business leaders and institutions, as well as in the public.

The change in direction of technology in the second half of the 19th century plus and institutional changes up to the post-World War II period, ground the authors’ conclusion that “the productivity bandwagon depends on new tasks and opportunities for workers and an institutional framework that enables them to share the productivity gains” (p. 218). A key 19th-century transition point was that the direction of technology shifted away from automation and people began to benefit more from the progress of technology. Key examples involve steam and electricity, which created new tasks and job opportunities in transport infrastructure and associated industries, such as steel and coal. Later, as electricity transformed factories by allowing distributed power rather than centralized steam power, there was a significant increase in the demand for engineers and white collar workers, pushing up wages. Contributing to this trend were institutional changes such as trade unions that gave greater bargaining power to workers, creating improved rent sharing between employers and employees. Political representation resulted in regulation with attendant improvements in conditions and public health. After World War II, there was a significant year-on-year increase in the “Total Factor Growth” measure of technological progress, and there was more inclusive economic growth with inequality declining rapidly as wages rose.

The closing chapters of the book focus on digital technology and AI, and detail how the 1,000-year struggle that finally resulted in a more inclusive prosperity began to unravel in the 1980s. Economic growth slowed and labor’s share of national income has been on a protracted downward trend in most industrialized economies. The share of wealth in the richest 1% of the population increased from 10% in 1980 to 19% in 2019. Several factors that brought about these changes are reviewed, including the advent of the digital age and the automation of manual labor that it afforded, along with a change in economic doctrine, the erosion of union power, and deregulation that has favored cutting labor costs. All of this, it is argued, has led to a change of vision, often expressed as, “the social responsibility of business is to increase profits” and to generate “high returns for their shareholders” (p. 271), views now taught in most business schools.

The authors also argue that the “move fast and break things” mentality is symptomatic of a shift in the direction of digital technology and that the current AI vision of technology leaders is an illusion. This vision claims that AI will benefit humankind, yet in reality, it sidelines humans while generating huge wealth by reshaping our view of digital and AI technology away from creating new tasks and opportunities toward automating work and cutting labor costs, re-creating the old two-tier society of the previous millennia. Nevertheless, while some data is provided to justify this assertion of the authors in the use of robotics, there is much debate about the real impact of AI among white collar workers, a topic about which the authors offer no projections of their own.

Central to the book’s thesis is the claim that a deterministic view of technology is a fallacy. Different choices could have been made in developing AI, away from automation and in directions more beneficial to society. However, what these directions might be are not really examined in any detail. A Christian redemptive approach to culture, while resonating with this non-deterministic view, would want to frame the argument in terms of responsible design choices involving stewardship, love for neighbor, and avoiding technological design that dumbs down humanity or leads to addiction or results in idolatry.

The final chapter outlines how Progressive movement activists, reformers, and journalists changed the views of the public, organized politically, and challenged institutions and government in America in the late 19th and early 20th century, leading to a redistribution of power and a change in direction for technological progress. A three-pronged formula is proposed as a way out of our current predicament: (1) “altering the narrative” and “changing the norms,” (2) “cultivating countervailing powers,” and (3) providing “policy solutions.” How this would work is then sketched out using examples, such as how the environmental movement worked to redirect technologies. The authors’ proposals for “Remaking Digital Technologies” were rather weak. Their suggestion that “improving productivity in workers’ current jobs” (p. 394) is precisely what companies such as Microsoft would argue they are offering through their “co-pilot.” I was also not convinced by the longer section on policy solutions that missed any reflection on proposed standards for responsible AI or policy proposals, such as the EU AI Act, details of which have been under discussion for the last few years.

In the complex world of social history and economics, it is often hard to prove a causal link between one factor and another, let alone when there are several variables in play. No doubt other economists and social historians will have a different take on the role of power and technological progress in shaping our world, and Christians

will want to provide an interpretation through the lens of biblical truth. This book does, however, provide a helpful counterpoint to the prevailing AI vision that innovation is essential for growth and prosperity and that regulation stifles progress.

*Reviewed by Jeremy Peckham, AI entrepreneur, ethicist, and former CEO, Bewdley, UK.*

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**RADICAL BY NATURE: The Revolutionary Life of Alfred Russel Wallace** by James T. Costa. Princeton University Press, 2023. 552 pages. Hardcover; \$39.95. ISBN: 9780691233796.

Most people, when asked, “Who is Charles Darwin?” would quickly respond, “Isn’t he the survival of the fittest guy?”; or at least make some reference to evolutionary theory. If the same people were asked, “Who is Alfred Wallace?” they probably would furrow their brows and make some guess (“Isn’t he the Braveheart guy?!”) or proclaim they had never heard of him. But Alfred Wallace (1823–1913) should get as much credit for formulating the theory of evolution as Darwin, and, I would guess, if he were pushed, *more* credit, according to James T. Costa, the author of *Radical by Nature: The Revolutionary Life of Alfred Russel Wallace*.

Costa’s 419-page tome (not counting chapter notes, figure credits, and index) was written to mark the 200th anniversary of Wallace’s birth. The author argues that Wallace is “not well enough known” in spite of many recent publications documenting Wallace’s life and accomplishments (p. xi). Costa attempts to make this book unique in several ways. He hopes that what he has written is an updated story of Wallace’s life; the book does include information from newly discovered notebooks and manuscripts. He also wanted this biography to explore Wallace’s life “as he lived it, in a narrative that traces the arc of the remarkable adventures, poignant personal life, and breathtaking sweep of thought of this singular human being” (p. xi). Costa intentionally includes vivid descriptions of the landscapes and geology of the places where Wallace collected his vast number of specimens, as well as the cultural context of his life and work.

The biography begins with Wallace’s life as a child. His family, although having limited finances, yet encouraged Wallace’s innate creativity, reading, love of the outdoors, and intellectual exploration. It is clear that Wallace’s keen sense of observation—particularly about place—was born along the River Usk in South Wales. As a young teen, Wallace traveled to London where he spent six years as a surveying apprentice. His curiosity and intellectual pursuits were nurtured in this environment in which he explored science—especially geology, entomology (he loved beetles!), and botany—in the