Patterson are considerate, compassionate writers, and they do an excellent job of avoiding the traps that could make this book dull. I would recommend it especially to those who work in health care, but it is also relevant and accessible to laypeople. Christians in particular might connect to the kind of selfless community displayed by the phage researchers. This book combines the best of the genres it spans. It is a lucid description of a remarkable achievement in medical science, but it is also the very human story of a woman fighting to save her husband. Whether phage therapy turns out to be the future or not, *The Perfect Predator* definitely made a medical memoir convert out of me.

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HOW TO BE A BETTER SCIENTIST by Andrew C. Johnson and John P. Sumpter. New York: Routledge, 2019. 247 pages, index. Paperback; $23.95. ISBN: 9781138731295.

It is hard to imagine the need for yet another offering in the crowded field of generalized science books. This is especially true in the case of Johnson and Sumpter's broad *How to Be a Better Scientist*, which lacks an obvious audience or niche. However, the authors largely achieve their stated aim of producing a book that is not only accessible but also relevant to aspiring and established scientists alike, including those at every career stage—from beginning students to seasoned principal investigators (PIs). The tone of the slim volume is light and leavened with great dollops of humor, yet the topics are so well mined that occasional nuggets of wisdom make the book even more interesting and appealing.

Breadth rules over depth, with chapters covering everything from how to choose a graduate school sponsor and research project, to how to secure grant funding and to design a conference poster. The individual chapters and the overall organization span the range from planning experiments and seeking jobs, to making the most of scientific meetings and social media, but the overall view is from the proverbial 30,000 feet rather than close up. The vocabulary is simple, the mood informal and breezy rather than stuffy or preachy, and the writing mostly crisp and to the point. Each chapter ends with a handy concluding checklist reiterating major "take-home" messages.

Late-career scientists might appreciate the practical advice on keeping a busy lab running effectively while supervising students and postdocs. Nonetheless, it is hard to imagine that most of the "hands-on," step-by-step advice provided here (such as how to create and present a conference talk, how to plan and submit a manuscript, and where to seek funding) would not already be well known to experienced scientists, even if it might be nice for them to skim the chapters and see the world of scientific investigation through the fresh eyes of newbies. Indeed, most of the practical advice dispensed here is aimed squarely at the beginning, or even aspiring, scientist. Still, the authors make clear that even a late-stage scientist's career is best considered a "work in progress," and there is practical advice for more-seasoned scientists, including how to deal with collaborators, funders, administrators, and media.

The authors offer appropriate examples to support their arguments, such as the discovery that gastric ulcers are caused not by stress but by pathogenic bacteria, demonstrating that while it is difficult to overturn conventional wisdom, scientific data typically achieve this effect in the end. Occasional references are provided, but readers are generally left on their own to hunt down sources for further reading. However, the focus is largely on practical advice. Readers are urged to join ResearchGate, to use many subheadings in their writing, and to use figures in place of words in explaining results.

Still, this is by no means a technical book. The authors make clear in their foreword that they never intended to write a technical book or to engage in philosophical exploration or description of any or all particular branches of scientific investigation. Instead, Johnson and Sumpter draw on their many years of combined experience as professional scientists, including publication of numerous articles and supervision of dozens of graduate students, in seeking to halt the spread of what they characterize as "poor science": boring or impenetrable writing, lackluster talks, unfocused projects, and (worst of all, in their view) unhappy scientists. The authors write of witnessing many aspiring scientists abandon their career goals due not only to an unfortunate inability to do good science but also to an exasperating inability to find fulfillment and joy in their work.

One of the major themes of the book—handled often and well—is that science is a brutal battleground that poses great psychological perils for its practitioners. The authors make clear that recurring setbacks and frustrations play a huge role in how scientific findings, and individual scientists themselves, advance. They also make clear that such frustration is not anomalous but instead routine. There are multiple detailed sections on how to handle criticism and rejection, and even an entire chapter on "When Things Are Not Going Well" (sample advice: "Do not try to work yourself out of trouble"). It is both refreshing and admirably constructive for Johnson and Sumpter to advocate, indeed urge, that scientists of all ages and experiences take solid steps to protect their time, sanity, lifestyle, and emotional health. Again and again, the authors recommend that scientists find a balanced life outside the lab. They argue that to become a better scientist, one must become a better person. The focus on scientific integrity and, in particular, on admitting mistakes and telling one's story with honesty and transparency, is commendable.

Indeed, apart from its "something for everyone" approach, the book's true strength lies in its recognition of communication as a central focus of science. Yes, too many scientists forget the scientific method's all-important final step: to share one's findings. "The need to communicate well in science is not appreciated as much as it should be" (p. 110). The authors urge that scientists should be able to explain their work—what they do and why it matters—to parents or other family members. They further advise dedication of large blocks of time to writing. "Easy reading is damn hard writing" (p. 144).

However, the authors' mostly thorough exploration of communication leaves one huge boulder unturned, which exposes the book's central weakness. Much is made of the importance of scientists explaining their findings to other scientists, but in today's world it is just as crucial for scientists to communicate the relevance of their findings to critics outside science. How should one explain research to skeptics and deniers who question the legitimacy of scientific findings, let alone the need for science in the first place? Is a better poster, or even more data, really the best way to handle vaccination doubters and climate change deniers? Regrettably, the authors barely touch on this topic.

My second criticism of the book involves a different focus. Although the authors pointedly wished to steer clear of anything smacking of philosophy (or even academic debate), I found myself at times wishing they would have at least acknowledged some of the numerous and important philosophical ideas concerning the proper undertaking of science. For example, one of the topics they mention throughout the book, both directly and indirectly, involves how one knows when one has collected sufficient data to test one's hypothesis and justify conclusions. Unfortunately, this is never dealt with in depth or head on, with the result that some of the advice becomes contradictory ("Be thorough and don't take shortcuts" versus "Don't be a perfectionist"). How much trust should we put in our findings and conclusions? How do we know if they are true? How do we know when to stop doing replicates of experiments—do we base the decision on statistical inference alone? or on something more? I appreciate that the authors sought to provide practical guidance rather than venturing into potentially pedantic territory, but even simple recognition of such issues, with references as to where to explore further, would be a big boon to scientists of all levels in search of self-improvement. There is also virtually no mention of faith.

How to Be a Better Scientist is fun to read. It will provoke smiles, raise eyebrows, and bring useful rewards. Overall, there is much to recommend here, but like the best of science, there remains a never-ending list of further questions to be addressed.

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Technology

THE AGE OF AI: Artificial Intelligence and the Future of Humanity by Jason Thacker. Grand Rapids, MI: Zondervan Thrive, 2020. 192 pages. Hardcover; $22.99. ISBN: 9780310357643.

There are not yet many books that engage with artificial intelligence theologically. Jason Thacker's *The Age of AI: Artificial Intelligence and the Future of Humanity*, written for a general audience, provides an important start to much-needed theological discussions about autonomous and intelligent technologies. As an early effort in this complex interdisciplinary dialogue, this book deserves credit for its initial exploratory efforts. Thacker's book also points to the larger and more complex territory requiring further exploration.

Thacker, creative director at the Ethics and Religious Liberty Commission of the Southern Baptist Convention and project lead for their "Artificial Intelligence: An Evangelical Statement of Principles," is eager to draw attention to the pervasive and disruptive presence of artificial intelligence in our lives. While some may be distracted by images of AI that are speculative—the utopian Commander Data or the dystopian Terminator—many have not given much thought to the actual forms of AI that are part of our lives already, such as recommendation systems and digital assistants. "AI is everywhere," Thacker says; "And we aren't prepared." To help the unprepared understand AI, Thacker provides an orientation to current AI developments and explores the wide-ranging impacts of these on self-understanding, medicine, family, work, war, privacy, and the future. Along the way, he recalls biblical wisdom about old moral problems and imperatives, such as what the Ten Commandments prohibit and what Micah 6:8 prescribes (doing justice, loving mercy, and journeying attentively with God). He also offers a number of familiar biblical assurances, such as not being afraid and trusting in God.

All of this is helpful, to an extent. Thacker's major conclusions about AI are that we should not let our creations—our artificial agents—supersede human agency, and that we should not place too much hope in technology, for it alone cannot save us. Both of these are important points, although neither is very controversial nor necessarily theological: transparency is called for in many AI ethical frameworks, and we are well into a period of technological disenchantment.

Thacker starts *The Age of AI* by asking two significant questions. First, what does it mean to be human? Thacker looks to Genesis 1, which states—three times—that God created humans in the image of God. Clearly, this is an important theological claim; it is also a very complex one. There are various interpretations of what it means to be created in the image of God, and this is only the first chapter of the biblical narrative. Thacker