for book discussion groups, college classes, and anyone looking to get a sense of the science and religion conversation or seeking to develop a vision of what themes might be fruitfully integrated into the North American evolutionary creationist science and religion dialogue. In this respect, the authors and editors of *A Reckless God?* are to be commended for their willingness to offer these nuggets from the Australian conversation about science and religion to the wider world.

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TECHNOLOGY

BITWISE: A Life in Code by David Auerbach. New York: Pantheon Books, 2018. 304 pages. Paperback; $16.95. ISBN: 9781101972144.

From its subtitle, one might expect this book to be an autobiography of its author, David Auerbach. It actually includes some of that, but also quite a bit more. The author devotes over half the book to musings concerning the intersection between the humanities and technology. As he says about himself,

> I have kept my feet in multiple social environs simultaneously, most often through a combination of humanities and technology work … The exactitude of computer science provided me with useful checks on linguistic hot air. Humanistic fancy, however, enabled me to figure out what I was doing in this technocratic labyrinth, and to ask myself why I was doing it and where it was going. (pp. 80–81)

As a student, Auerbach's studies included literature and philosophy along with computer science. Professionally, he worked as a software engineer at Microsoft and Google when he was in his twenties, and is currently a writer on technology for a number of publications including *Slate* and, most recently, *Tablet*.

About two-thirds of the way through the book, Auerbach discusses the tension that led to this change in career focus. While working at Google, he became increasingly aware of the difference between a web page as data to be analyzed (the focus of his work at Google) and the *meaning* of that page. He further wrote,

> I was also distressed by the disconnect I felt between my work and reality. The god's-eye view of the world's data had numbed my relations to the world … Even in 2008 there was an increasing sense that we, the engineers, were in a significant way other from the people who used our work. (p. 194)

The author devotes several chapters to developing the key idea behind many of his musings: the contrast between discrete encoding of data (which computers manipulate as numbers), on the one hand, and meaningful descriptions, on the other. He illustrates this contrast by encodings for personality types (e.g., Myers-Briggs), attributes such as gender (57 different options in Facebook as of the time of writing), and role-playing game character attributes. He devotes most of one chapter to an extended discussion of the evolution of the encodings for disorders in the *Diagnostic and Statistical Manual of Mental Disorders (DSM)* in its third, fourth, and fifth editions. (Both the author's parents were psychiatrists, and he became familiar with this system at an early age.)

In the last chapter, Auerbach discusses factors contributing to the drive for discrete encodings:

> The categorization and taxonomizing of human beings was not itself a new trend … the emergence of mass computation in the latter part of the twentieth century enabled large-scale, centralized classification of *individuals* … driven by national defense and advertising. (p. 225)

He takes agencies like the NSA, CIA, and TSA to task for using what he calls a "vacuum cleaner" approach to collecting data while being unable to analyze it properly (p. 226). He cites Facebook as the "centralization point for the *collection* of personal information in order to target individual consumers" (p. 229). He lists 98 axes along which Facebook can segment data; these are sometimes based on information voluntarily posted by users and others based on "information obtained from third-party sources such as car registrations, residential information, and corporate information" (p. 232).

Along the way, Auerbach muses about other matters as well. For example, in the chapter titled "Programming My Child," Auerbach begins by saying, "A few years after leaving Google, I started another long-term engineering project which is still ongoing" (p. 199). He continues by describing his daughter's newly learned skills as "upgrades" and bodily growth as "chassis replacement." This serves as a precursor to musings on similarities between individual humans and network systems such as Google and Facebook. A key characteristic of such systems is that, like persons, while individual algorithms can be replaced, the system as a whole can never be reset once it is started.

For the *PSCF* reader who is concerned about how personal data is increasingly being collected and analyzed by organizations such as Google and Facebook,

this book is an interesting and perhaps frightening exploration, written by a person who has been inside one of them. In this reviewer's opinion, though, it is marred by what seems to me to be overly long and sometimes irrelevant digressions.

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TRANSHUMANISM

TRANSHUMANISM AND THE IMAGE OF GOD: Today's Technology and the Future of Christian Discipleship by Jacob Shatzer. Downers Grove, IL: InterVarsity Press, 2019. 192 pages. Paperback; $22.00. ISBN: 9780830852505.

Most people have thought about how they would like to change themselves—get more sleep, read more, eat healthier, learn a new programming language, or master combinatorial proofs. A growing number of people have radical ideas about improvement: grow a tail; replace their eyes with optics that have zoom capabilities and can capture the infrared and ultraviolet spectrums in addition to what humans normally see; integrate memory chips and internet connectivity directly with their brain; or copy/transfer their mind to a computer or android body.

The book *Transhumanism and the Image of God* examines these more extreme ideas about human improvement. The author, Jacob Shatzer, is a theology professor at Union University in Tennessee. Shatzer's footnotes provide a rich collection of other documents that the interested reader can explore. He defines the related notions of "transhuman" and "posthuman" and carefully introduces the main ideas behind these terms—using the words of their proponents. He also provides the reader with ideas to help consider these topics from a biblical perspective. Here are some brief definitions:

> Posthumanism argues that there is a next stage in human evolution. In this stage, humans will become posthuman because of our interaction with and connection to technology. Transhumanism, on the other hand, promotes values that contribute to this change. … In a way, transhumanism provides the thinking and method for moving toward posthumanism. … Transhumanism is the process, posthumanism the goal. They share a common value system … (pp. 12, 16)

The first half of the book explores, in some depth, the major components of the transhumanist vision. After a chapter that sets forth the basic concepts of transhumanism, there are three chapters that consider "morphological freedom" (using technology to modify and enhance the human body), "augmented reality" (using technology to modify and enhance the human brain or the mind), and "artificial intelligence (AI) and mind uploading" (creating intelligent nonhuman beings and moving the human mind to a different medium).

The second half of the book examines where we are now. Those chapters look at ways in which our current technologies and habits contribute to a willingness to embrace the transhumanist agenda. He also introduces practices that would counter those inclinations.

Two concepts are foundational to the entire book. First, Shatzer asserts that there are two ideas that are essential to all the variants of transhumanism. He summarizes these two ideas in the following sentence:

> If we had to boil transhumanism down to two features, they would be an optimism regarding the possibility of radically altering human nature via technology and belief in a fundamental right of an individual to use technologies for that purpose. (p. 53)

The belief in a fundamental right to use technology to change oneself places the individual at the center of the transhumanist value system. Shatzer presents statements by transhumanists that indicate a responsibility toward others. The following two extracts from the Transhumanist Declaration indicate the direction of that concern:

> Policy making ought to be guided by responsible and inclusive moral vision, taking seriously both opportunities and risks, respecting autonomy and individual rights, and showing solidarity with and concern for the interests and dignity of all people around the globe. We must also consider our moral responsibility towards generations that will exist in the future. (p. 51)

> We favor allowing individuals wide personal choice over how they enable their lives. This includes use of techniques that may be developed to assist memory, concentration, and mental energy; life extension therapies; reproductive choice technologies; cryonics procedures; and many other possible human modification and enhancement technologies. (p. 53)

But Shatzer argues that ultimately "this final statement in the Transhumanist Declaration makes the primary element in decision making clear: individual choice" (p. 53).

The second foundational idea that underlies the book is that tools are not neutral. Referencing Richard R. Gaillardetz, Shatzer says, "Tools aren't neutral; rather, they encourage us and shape us toward certain goals, and they often do so in hidden ways" (p. 8). This is an assertion that a majority