things. Reductionist and mechanistic views are heavily dependent on a philosophical materialism, which is opposed to a deeper Christian, theistic view of reality.

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TECHNOLOGY

RE-ENGINEERING HUMANITY by Brett Frischmann and Evan Selinger. New York: Cambridge University Press, 2018. 295 pages + foreword, five appendices, detailed notes, bibliography, index. Hardcover; $29.95. ISBN: 9781107147096.

In his 1954 classic, *The Technological Society*, Jacques Ellul explored the concept of "technique," a way of thinking in which optimizing productivity and efficiency becomes an end, not a means. Joseph Weizenbaum's 1976 book, *Computer Power and Human Reason,* introduces the "imperialism of instrumental reason," a way of thinking that seeks to frame all problems in the language of computation. Weizenbaum argues that not all problems can be framed in this way—justice, for example—and that it is not the case that all things that matter are amenable to measurement. *Re-Engineering Humanity* belongs to this same literary genre (critiques of technological thinking). It explicitly seeks to extend Weizenbaum's analysis to the impact of the internet.

Frischmann and Selinger develop two key concepts. The first concept, "techno-social engineering," consists of processes in which technologies and social forces align and affect how people think, perceive, and act. "Engineered determinism" is the second concept and "entails techno-social engineering of humans, often through the construction of smart techno-social environments that render humans within the environments increasingly predictable and programmable" (p. 220). They add that engineered determinism is "… the grand hubris that we can socially construct a perfectly optimized world if we only have the data, confidence in our tools, and willingness to commit" (p. 53).

The book is primarily a warning against techno-social engineering. Frischmann and Selinger assert that "as we collectively race down the path toward smart techno-social systems that efficiently govern more and more of our lives, we run the risk of losing ourselves along the way" (p. 1). They add that their "concern is with the social costs associated with rampant techno-social engineering that diminishes and devalues human autonomy and sociality" (p. 62). They argue that our humanity can be taken away,

that it is at risk of deterioration by pervasive techno-social engineering. The basic capabilities at risk are thinking capacities, the ability to socialize and relate to each other, free will, autonomy, and agency.

These are strong assertions and the authors develop the case for them with some care. They examine a number of examples. For instance, to some people iPhones become part of themselves, yet the phone is designed to give access and control privileges to others; Facebook's algorithms determine who can see a post; global positioning systems can be used so easily that people lose a sense of where they are; furthermore, the data such systems generate can be exploited. The authors also point out that the internet has vastly increased the reach, interconnection, and continuity of techno-social engineering into homes and public places. They examine the internet of things, a means for ubiquitously distributed sensors to gather, exchange, and act on data. It can enable the providers of those sensors to engineer people's beliefs, preferences, and emotions.

They are careful about the structure of their argument. For instance, they acknowledge that they are making a slippery slope argument and devote most of one chapter to exploring the question of when such arguments might be legitimate. Since they assert that our humanity is at risk, they take time to examine what it means to be human and how one might detect that our humanity is being lost. To do that they reverse the classic Turing test for whether a machine can think like a human and ask how we might detect that a human is thinking like a machine.

Re-Engineering Humanity presents a dire picture of our current situation. So, the authors strongly argue for the "freedom to be off." They suggest three strategies toward this end. First, engage in critical analysis. For instance, Weizenbaum said that things that matter normatively are not necessarily amenable to measurement. Frischmann and Selinger extend that by pointing out an additional assumption often made, namely, that a common denominator for such measurements exists. Second, create friction on the slippery slope. Suggested methods include preserving net neutrality, using air gaps (places in software that are intentionally not optimized), using obfuscation techniques to disrupt surveillance, and anonymizing data. Third, challenge the logics of minimization and maximization.

It's hard to know how to evaluate a warning as serious as this. On one hand, the argument is carefully developed and the response strategies are worthy of consideration. However, the experience of reading the book is like looking at a room through a key hole

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and seeing things that seem to be major concerns. One would like to see the rest of the room. There are good reasons for skepticism about the perspective the keyhole provides. For one, Frischmann and Selinger point out that humans possess a basic resistance to being manipulated and conceivably could successfully resist the kind of control they warn against. But they do not develop this point. Also, they do not engage existing empirical research on the impact of internet usage. Anyone who has programmed computers or worked much with them knows that doing so can be a source of great joy. Such work need not be manipulative or controlling and can be done with an aim of helping others. But joy and service never make an appearance in *Re-Engineering Humanity*. As a result, the book comes across as too much of a jeremiad.

What is needed in the face of such a serious challenge is a view of the big picture as well as careful attention to the particular concerns Frischmann and Selinger address. To their credit, the authors do a normative analysis, employing a consequentialist approach. However, for Christian scholars, a more comprehensive, more principled theory is not out of reach. Here are some components such a theory might include: (1) an affirmation that the capacity for technology is God's creation, a gift to humanity, and part of the cultural mandate—as such it is good; (2) a broader scholarly context that would include more studies by more critics of technology than this book includes; (3) a sense of the joy of technology, of both making it and using it; (4) a recognition of human sinfulness and hence the seriousness of dangers such as the one the authors highlight; and (5) a framework of guiding principles for developing technology in ways that are constructive and that include checks and balances for protecting against evil consequences.

Perhaps some reader(s) of *PSCF* can articulate such a theory. In the meantime, we can listen seriously to the warning Frischmann and Selinger offer.

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Note to ASA/CSCA Members

Along with all their other contributions, many members of ASA and CSCA publish important works. As space permits, *PSCF* plans to list recently published books and peer-reviewed articles related to the intersection of science and Christian faith that are written by our members and brought to our attention. For us to consider such works, please write to pfranklin@tyndale.ca.

✝ THEOLOGY

THE LOST WORLD OF THE FLOOD: Mythology, Theology, and the Deluge Debate by Tremper Longman III and John H. Walton, with a contribution by Stephen O. Moshier. Downers Grove, IL: IVP Academic, 2018. 192 pages. Paperback; $16.20. ISBN: 9780830852000.

In *The Lost World of the Flood*, Tremper Longman and John Walton put forward an interpretation of the Genesis flood narrative that treats it as an inspired, authoritative, and purposeful theological story of a real event. In so doing, they promote a serious view of the Bible while also alleviating unnecessary conflicts with science.

Structurally, the book's seventeen chapters are sorted into four parts and titled as propositions, a trademark of the Lost World series. Part 1 (propositions 1–6) addresses the "cognitive environment" and literary character of the Genesis flood story. Worldview, genre, and rhetoric are central concerns. Longman and Walton argue that ancient worldviews framed ancient genres, such that the modern categories "myth" and "history" are inadequate for the flood story. Genesis 1–11 is "history" in the sense that it refers to events that really happened (signaled in part by the use of the Hebrew word *toledot*, pp. 16–17). But the flood story is a *theologically interpreted* and *rhetorically shaped* story about a real flood. To express this idea, Longman and Walton propose "theological history" as a more accurate and faithful genre-label than "myth." As for rhetorical shaping, the flood story and its larger literary context (Gen. 1–11) bear the marks of figurative language (pp. 24–28), anachronisms (pp. 28–29), and hyperbole (pp. 36–50).

Part 2 (propositions 7–8) summarizes three Mesopotamian flood stories and compares them to the Genesis story. The Mesopotamian stories summarized are Eridu Genesis (Sumerian), Atrahasis (Babylonian), and Gilgamesh (Babylonian) (pp. 53–60). In their comparison to Genesis, Longman and Walton discuss theologies, portrayals of humans, details of the flood plot, descriptions of the rescue boat, and the roles of the key protagonists (pp. 61–87). They argue that readers should understand the Israelite story "not in terms of borrowing but rather in terms of Mesopotamia and Israel floating in the same cultural river" (p. 85). Even so, the authors alert readers to a fragment of the Gilgamesh Epic found in the land of Israel (p. 63, n. 3) and to words in the Genesis flood story that were probably borrowed from Akkadian, the language in which the Babylonian stories were