

The main body of the book ends with Garte explaining how he accepted the call to faith. This chapter is personal and reflective, as he recalls a dream, his first experiences attending church, his conversion, and his discovery that there were other scientists who were committed Christians. The chapter ends with Garte recalling an imaginary, but quite lovely, sermon he preached in his mind while driving the Pennsylvania Turnpike.

Part 2 of the book, "Issues and Questions," is more philosophical than the first half. Here Garte takes a somewhat defensive apologetic stance, defending Christianity against claims such as Christianity is oppressive, dogmatic, baseless, or contradicting. The most theological chapter, "Love and Freedom, Chance and Will," delves into the problem of evil, theodicy, divine love, and purpose. Garte admits, "My own approach to theodicy is not theologically sophisticated" (p. 164). While I did have some musings about the assumptions and implications of Garte's approach, I was nonetheless appreciative of many of his affirmations, especially his commitment to the idea that love and freedom are necessary features of this world. "We must be free in order to love and to be loved. Free will allows us to have faith and a relationship with God" (p. 174).

The final chapters of the book delve into a defense of evolutionary creationism, critique of atheistic evolution, and appraisal of the intelligent design movement. Garte believes that the universe is designed, but he prefers to speak about "divine design" instead of "intelligent design" because "the mechanisms by which life was designed and created are not currently within our ability to understand" (p. 186). Although we may never know such mechanisms, Garte takes the radical stance that faith and science, the books of scripture and nature, "will in the end meet at one single point of perfect harmony" (p. 212). He ends declaring that "modern science leads to faith in God and that a scientific understanding of nature can never be complete without the acknowledgment that the Creator of the universe is the Author of all" (p. 221).

The book was both enjoyable and informative. I would not normally have read a memoir had I not been asked, but I am happy that I did. There is a bit of a question as to just who this book is written for. The scientific discussions do not require a science degree, but a fair amount of acquaintance is presumed. For those who are less versed in science (like this author), do not fear, there is a brief but helpful appendix which provides some details regarding molecular biology and evolution. My sense is that the book is less for Christians who need to come to terms with the real findings of science and more for

the science-minded agnostic who questions whether Christianity can reasonably be considered.

*Reviewed by Wm. Curtis Holtzen, Professor of Philosophy and Theology, Hope International University, Fullerton, CA 92823.*



## TECHNOLOGY

**AUTOMATION AND UTOPIA: Human Flourishing in a World without Work** by John Danaher. Cambridge, MA: Harvard University Press, 2019. 336 pages. Hardcover; \$39.95. ISBN: 9780674984240.

John Danaher opens his book *Automation and Utopia: Human Flourishing in a World without Work* with the claim, "Human obsolescence is imminent." What we do, he argues, is increasingly less relevant "to our well-being and the fate of our planet" (p. 1). The Anthropocene is yielding to the Roboscene, and soon "there will be little left for us to do except sit back and enjoy the ride" (p. 2). If we don't want to end up sated and stupefied in *WALL-E* world, Danaher urges, we need to imagine how humans will find meaning and value in a post-work society.

Danaher begins by making a case for the possibility of automating all forms of work "performed in exchange for an economic reward" (p. 28). Automation, which already has a long history, will continue to advance further into agricultural, industrial, financial, legal, medical, governmental, scientific, and every other form of physical labor and into the affective domain. Next, Danaher argues that we should accept this as a good thing and hate our jobs (even if we love them). The current reality of work for many is bad—precarious, inequitable, oppressive, and unsatisfying—and it is getting worse. Since the "structural badness" of work is very difficult to reform, Danaher concludes that we should embrace the economic liberation that autonomous and intelligent technologies may provide. After these discussions of automation and work in the first part of the book, Danaher turns his attention to what he sees as the next significant human project: creating a world in which humans can thrive when they no longer need to work for economic benefit. Danaher presents two possible worlds: a cyborg utopia, in which we merge with technology to upgrade ourselves and maintain our cognitive evolutionary niche; and a virtual utopia, in which we retreat from our cognitive dominance and cultivate crafts through games.

Danaher makes many careful moves in this book, and it is worth following his argument and thought experiment all the way through—even as one's disagreements may mount. One can be skeptical about the absolute automation of work, pointing to work that requires

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such things as creativity, care, curiosity, and contemplation. But the advancing automation of tasks will likely create more unemployment and greater inequities. In his 1952 novel *Player Piano*, Kurt Vonnegut imagined a dystopia in which society is divided between an elite wealthy group, mostly engineers and managers, and everyone else, the “Reeks and Wrecks” who are part of a work creation program called the Reconstruction and Reclamation Corps. As dehumanizing as Vonnegut’s dystopia is for everyone in it, we see something worse emerging now in the widening gap between highly compensated technology workers and gig or “ghost” workers, who perform low-skilled tasks to make technology work better. When these tasks are automated, what will this “surplus population” do? Will they end up on the streets of our high-tech cities with others who have already been displaced?

One may want to reform rather than reject contemporary capitalism, perhaps exploring a corrective Protestant work ethic as Kathryn Tanner does in *Christianity and the New Spirit of Capitalism* (Yale, 2019). But what would happen if economic precariousness were to become less of a driving motivation for work? Would we, as Dorothy Sayers imagined in her 1942 lecture “Why Work?,” come to view and engage in work as a creative activity pursued for the love of the work itself? Whatever we believe about the possible extent of automation and the future of capitalism, Danaher raises important issues for anyone interested in the future of work.

As for creating a better world, I hope that no one objects to this pursuit. If the digital transformation of our present world is a descriptive reality and not merely a prospective possibility, as Luciano Floridi argues in *The Fourth Revolution: How the Infosphere Is Reshaping Reality* (Oxford, 2014), then how will we continue to shape the world we’ve been digitally enhancing for over half a century? Danaher’s rehabilitation of the concept of utopianism is helpful: rather than a rigid plan (a “blueprint,” which can lead to violence and inertia), he defines utopia as a range of possibilities that are practical but also radical improvements (a “horizon”). Before presenting two utopian scenarios, Danaher develops a useful “utopian scorecard,” which evaluates utopias against the problems of automation (such as attention, autonomy, and agency) and the dangers of blueprint utopianism.

The cyborg utopia, in which we have been living for some time—conceptually (extending our minds through artifacts) and technically (with medical implants)—is the conservative option. This is its strength and weakness, since it conserves both what we value (our superior intellectual agency) and what we do not (for example, social inequities). This utopia could therefore

become a dystopia, and Danaher concludes it is not the utopia we are looking for.

The best possible world Danaher imagines is a virtual utopia. “Virtual” is not reducible to life inside a computer-generated environment; humans have been living in complex virtual or artificial environments, such as societies and cities, for many millennia. To these we have added digital simulations, which are still real in the impacts they have on us and others. More radical than the vision of a virtual utopia is Danaher’s proposal of what we will do in these physical and digital virtual environments. The virtual utopia is a utopia of games—we will play games that we understand (so there is no coercion), we will play for “trivial or relatively inconsequential stakes” (because all the important work will be done by artificial agents), and we will cultivate abilities and virtues through the games we select and create (p. 229).

This is a retreat of sorts, as it involves severance from knowledge about, and surrender of control in, the Roboscene. But, for Danaher, the gains outweigh the losses: human attention, autonomy, agency, and other important values will be preserved as people think, plan, decide, create, interact, and realize “ever higher degrees of achievement” (p. 236). These highest achievements include the cultivation of craft, a dedication “to good work for its own sake” (p. 239). Games, Danaher concludes, “could be enough to sustain meaning and flourishing” and “would represent a significant societal improvement” (pp. 245, 251).

I explained Danaher’s argument to my daughter during her recent visit home from college, where she is studying philosophy, politics, and economics. We discussed some of the questions left unanswered in *Automation and Utopia*. How would we create a moral community that could construct and sustain a virtual (or any other) utopia? Would we really, after centuries of unfilled promises, finally realize the end of penury through science and technology? And if we did, what would motivate us to pursue a good life for all? Our dissatisfaction with a future full of games may have been influenced by the family game night gone wrong the previous evening, due to various human failures, and we ended up discussing work from the perspective of practical theology—i.e., examining present and prospective social conditions of work in relation to Christian tradition.

Danaher emphasizes the value of processes (*energia*) over end states (*kinesis*), but we were skeptical about the satisfaction of “purely procedural goods” (p. 238). Not only would a virtual utopia cut us off from more direct engagement with the world and significant goods such as knowledge of it, but we would have little or

no instrumental value. For Christians, who believe that creation mediates knowledge of God and that we are cocreators with God in the transformation of the world, living life as a mere game would be a form of hell.

In an epilogue titled “The Unending Quest,” Danaher describes Jorge Luis Borges’s short story “The Library of Babel” as a “meditation on the meaning of life in a universe of infinite possibilities” (p. 271). Our current situation, he suggests, is analogous to that of the denizens who search Borges’s fictional library for meaningful books among every possible book. Their quest is futile, for their world is an antilibRARY—a repository of mostly meaningless and misleading books. Danaher concludes: “We shouldn’t keep searching through the infinite darkness for something we ourselves can never obtain; we shouldn’t sacrifice everything else that is good in life for an unending, and unrealizable, goal” (p. 273). But what if the world is more like a library, presenting us with information? And what if our encounter with that information transforms us? And, finally, what if the telos of our quest not only matters as a transformative process but is also an end state that is already being realized through our ongoing transformation? This would cause a Christian, formed by the past, future, and present coming of Christ, to be wary of desiring or designing a utopia so far removed from the created world.

*Reviewed by Michael J. Paulus Jr., University Librarian, Assistant Provost for Educational Technology, and Director and Associate Professor of Information Studies, Seattle Pacific University, Seattle, WA, 98119.*



## TRANSHUMANISM

**HUMANS 2.0: Scientific, Philosophical, and Theological Perspectives on Transhumanism** by Fazale R. Rana with Kenneth R. Samples. Covina, CA: Reasons to Believe Press, 2019. 306 pages. Paperback; \$19.95. ISBN: 9781886653122.

Biochemist Fazale Rana and philosopher-theologian Kenneth Richard Samples work together to provide a scientific and theological account of advances related to transhumanism. Their book contains three unequal sections: one on the science of human enhancement (about 110 pages), one on the ethics of human enhancement (about 65 pages), and one on transhumanism and Christianity (about 35 pages). They conclude the book with special foci on AI and artificial wombs, and a primer on molecular biology for those with limited scientific background. Throughout the work, Rana and Samples recount storylines from the *Iron Man* comic book storyline to illustrate the involved issues.

The book achieves several worthy goals well. First, the breadth of engagement helps readers connect scientific

advance with secular and transhuman philosophy and biblical Christianity. Second, the initial section provides competent detail on the science involved, while at the same time acknowledging how quickly science develops. The authors provide enough of a foundation that readers will be able to apply the relevant principles even as science continues to develop. (For instance, the CRISPR-Cas9 chapter includes nothing about recent developments, but the reader can connect the dots.) Third, the book makes a good argument for how particular scientific developments fit into and move toward a transhumanist agenda. There is no one location where this argument is made absolutely clear, but it is implied and stressed at various points that together make the case stronger.

However, the book’s strengths are uneven and its overall impact weakened in a few key ways. First and foremost, the second two parts—handling ethics and transhumanism and Christianity—do not rise to the level of detail and sophisticated argument that the first part does. It left me with the vague sense that science is hard and complicated; ethics and the Bible are easy and straightforward. The authors, of course, say no such thing, but the level of engagement, research, and arguments gives that sense. (In particular, several of the ethical and biblical chapters are conspicuously short; this may leave the impression that there is not much to say on these topics.) Frankly, the answers provided in those sections will introduce readers to important key concepts, but they will fall a bit flat for anyone beyond a beginner’s level, and they certainly won’t convince skeptics that Christianity has much to contribute.

Second, the authors make unfortunate compromises and unhelpful proposals. For instance, they support somatic cell gene editing for human enhancement (p. 187), stating that it must, of course, be “limited,” but they provide nothing substantive to handle such limiting. Who limits? By whose judgment? How? When? Further, their advice for Christians assumes that believers will retain a high degree of cultural influence and power, which they can use to “point out” various inconsistencies to transhumanists. The role of the Christian in this whole enterprise basically boils down to occasionally piping up and “pointing out” potential challenges. I cannot help but wonder whether Christian witness might be relegated to the margins, margins which could potentially involve suffering, but which would not “point out” things to rich, smart people in white coats.

In the end, I want to like the book, and I would recommend it. I guess by that I mean I am sympathetic with the project, and enough of it is done well to make this worth a read. The scientific explanations and descriptions themselves are worth the modest price of the