

Book Reviews

The book concludes with a 20-page appendix, 88 pages of notes and references, and a 19-page index.

My advisor's views notwithstanding, I am much more impressed with Kurzweil now than I was before, though I still have many reservations about his claims. *The Singularity Is Nearer* is a much better book, though it must be read with an attitude toward critical thinking. No human—or AI—can predict the future with accuracy, but it is often possible to identify consequences and trends that will affect it. Even when they are wrong, futurists help us think through important matters in advance, in the here and now. Superhuman AI and the transhumanist future that may proceed from it speak to matters of theological importance. Believers would do well to consider these matters in advance, so I recommend *The Singularity Is Nearer*, but with some cautions.

First, although Kurzweil has some religious sensibilities, he is an atheist. His attitude toward religion was expressed long ago in *The Singularity Is Near*. Against its central place in human history, he dismisses religion as “deathist rationalization—that is, rationalizing the tragedy of death as a good thing” (p. 372). Asked if God exists, his (in)famous answer was “Not yet.” He is waiting for his AI god to appear after 2045 in some kind of post-secularity superintelligence.

Kurzweil's atheism undermines his arguments. Unlike so-called Christian transhumanists, who also aspire to transcend the human condition through technoscience, his notions of transcendence are without roots. He relies on human conceptions of good or bad, ethical or not, without links to God or anything else that is objectively transcendent. So, he would optimize many things, but it seems progress and optimization only mean getting something he wants, nothing more.

Second, even before his Singularity, Kurzweil believes in predestination. He consistently describes computation progress as *inexorable, inevitable, necessary, destined, fated*, and other terms of certitude. He correctly anticipates social disruptions on the way to the Singularity, but he is unyielding about their resolution; society shall yield. Limits are intolerable and unsustainable; for in Kurzweil's view, informational determinism is built into the cosmos. Yes, short-term delays are possible, but our technological destiny shall have its way.

Third, like its predecessor, *The Singularity Is Nearer* is a sales pitch, though more informative. Consider again what transhumanists promote: a future that is, quite literally, dehumanized. Although created in the image and likeness of God, with physical bodies like our Lord Jesus, biological human beings are to be replaced, our cognitive faculties disembodied, our minds uploaded into computer systems. However, when the Singularity is past, will anyone other than transhumanists regard the

new world's inhabitants as human? Kurzweil's 2005 subtitle, *When Humans Transcend Biology*, reveals the goal, but transcendence that eliminates our biology is inherently dehumanizing.

The Singularity Is Nearer has a softer tone, with a subtitle less offensive to those who love humanity: *When We Merge with AI*. It seems that “we” are retained. The claim is that human beings have always loved their tools, haven't they? So, transhumanists aren't doing anything different! Nothing has changed, even as they would fundamentally change our existence. Kurzweil and his allies want to minimize resistance to AI bliss, so for marketing purposes, human life, faulty as it is, will remain, at least in their rhetoric. Nevertheless, the book makes it clear that AI will dominate our being, progressively changing and eventually eliminating our created nature. Kurzweil's dream remains inhuman.

The transhumanists leave many important factors out of the picture. Their future is not defined, yet they claim it is inevitable? May not society say no? Should not governments regulate AI? What does Christian faith have to say about technology and the future? With concerns like these unanswered, Kurzweil's claims are empty, distasteful, and impossible to swallow. Perhaps my advisor was right after all.

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THEOLOGY

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DETERMINED: A Science of Life Without Free Will by Robert M. Sapolsky. Penguin, 2023. 528 pages. Hardcover; \$35.00. ISBN: 9780525560975.

and

DOI: <https://doi.org/10.56315/PSCF3-25Mitchell>

FREE AGENTS: How Evolution Gave Us Free Will by Kevin J. Mitchell. Princeton University Press, 2023. 352 pages. Hardcover; \$30.00. ISBN: 9780691226231.

For almost as long as we have written records, humans have been discussing how free our will is. In ancient times, the constraining factor was typically the gods or fate. There are still today some theologians who believe a proper understanding of the divine compels them to recognize what Luther called “the bondage of the will.” That is, on theological grounds, they deny free will. More common now, however, are those who deny any room for free will on the basis of what they consider to be a proper understanding of science.

Prominent among the latter is Stanford biologist and neurosurgeon Robert Sapolsky, whose book *Determined: A Science of Life Without Free Will* argues that there is no free will and that if there is no free will, then it is wrong

to hold people morally responsible for their actions. His argument against free will rests on two main premises:

1. We know the laws of physics well enough to say that freedom cannot be a property of material entities.
2. Human beings are nothing but matter.

I agree with the claim that there are always conditions around free will, and so to some extent this can condition moral responsibility. Nonetheless, whereas Sapolsky accepts the antecedent (there is no free will) and thus is forced by logic into what he calls the “nutty” consequent (denying moral responsibility), I can’t bring myself to believe that people are never morally responsible, and so I have to deny the antecedent. The irony of this is that if Sapolsky is right, then I can’t help coming to that position! And I can no more be held rationally responsible than morally responsible on Sapolsky’s account. Everything that happens is just the result of the initial conditions and the immutable laws of physics. That is a grim view of the world.

Some will respond that Sapolsky is right about the first premise, but then also claim that we humans have immaterial minds or souls, and that this is the origin of our free will. For us as Christians, that isn’t a ridiculous proposition: we are committed to the existence of an immaterial personal being (or rather, tri-personal being), and we believe that such a God has free will. So, I won’t claim this response defending free will is unreasonable. But this implies a substance dualism (between physics/brain and mind/soul), and I am not convinced that some kind of substance dualism of human beings is necessary to preserve free will. I am more interested in the project of seeing the continuity of ourselves with the rest of the created order, even though in some ways we are remarkably different kinds of beings.

Is there then a way of showing that free will could have emerged from the evolutionary process that produced our bodies? A new book, *Free Agents: How Evolution Gave Us Free Will* by Kevin Mitchell, claims to do just that. Mitchell is a professor of genetics and neuroscience at Trinity College Dublin. He does not argue from religious grounds at all, and sometimes makes sweeping and unjustified assertions that go well beyond science: “There is no cosmic purpose at play – merely thermodynamic tendencies” (p. 42). What kind of empirical experiment would show that?! But it is true that the facts of science have to be interpreted, and metaphysical commitments certainly come into play.

Most significant in this regard is the ontology of life that Mitchell develops. I have always thought that what Holmes Rolston called the “Three Big Bangs” is a very helpful way of naming important ontological developments in natural history—even if the dividing lines are not absolutely stark: (1) the origin of matter/

energy; (2) the origin of life; and (3) the origin of sentience. It seems to me that Sapolsky doesn’t really recognize the significance of the second and third of these. For him, living things (and *a fortiori* sentient humans) are no different in kind than nonliving systems. There might be a greater degree of complexity to our material parts, but essentially we are the same as a tornado or a car (p. 5).

In contrast, Mitchell makes a very important contribution by showing the difference that life makes. He is not reintroducing the kind of vitalism that flourished in the eighteenth and nineteenth centuries, but simply describing the different way of being that living organisms have, beginning with single-celled organisms. “Life is not a state; it is a process” (p. 26). The material particles, from which an organism is built, are constantly changing. What keeps it identifiably the same organism is a continuity of chemical processes occurring inside a membrane that separates it from the “outside” world. It takes in free energy to keep these processes going, and thus persists through time with a degree of independence from the environment around it.

But aren’t these just deterministic processes? No! says Mitchell. Living things are not just input/output machines operating deterministically: “What distinguishes living organisms is that *they do things, for reasons*. They behave in a truly purposeful manner. This is not an illusion or just a convenient way of talking about them: it’s the right way of thinking about them” (pp. 22–23). The ontological category of life must be described differently than matter/energy.

So how can a single-celled organism do things for reasons? There might be some difficulty with language here. Mitchell is not claiming that single-celled creatures have free will, or are sentient, or have moral responsibility for their actions. But he claims that they make decisions based on information—even knowledge—and that is fundamentally different from simply reacting to external stimuli. The information comes first from natural selection: “By continually selecting individuals that are most adapted to their environment, natural selection effectively packs knowledge about the world into the physical structure of living organisms” (p. 49). I found myself continually wondering whether words like “decision” and “knowledge” apply to single-celled organisms, but I am persuaded that whatever we call it, it is different than what goes on in nonliving things and begins to show the building blocks of our free will.

As organisms become more advanced by developing sensors, more information is conveyed into them, and they must develop control systems for acting on that information. The key is that they can represent sensory information internally without acting on it. The more sophisticated organisms become, the control systems guide action over longer and longer periods of time.

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“Organisms develop internal systems of evaluation that free them from the brutal life-or-death judgment of natural selection. Crucially, all these systems are informational. Meaning becomes the currency of cognition” (p. 67).

Mitchell walks us through increasingly complex organisms like the hydra and *C. elegans*, and then those with bigger brains, nervous systems, and sensory equipment. We see the rudiments of self-knowledge developing when organisms must be able to distinguish between changes to the immediate environment they have made, versus similar changes made by other organisms. This is not yet the sort of free will that we have, but it is the development of subjective agency, which is another building block for full-blown free will.

Also necessary is that the future is genuinely open. For this, Mitchell leans on an interpretation of time and quantum physics developed by Lee Smolin and Clelia Verde in which what we experience as the present, is simply the transition from the indefinite possibilities of the future to the definite and unchangeable past. The present complete state of a physical system does not fully predict the next state of that system, and that opens the door for “higher-level features to have some causal influence in determining which way the physical system will evolve” (p. 164). My one course in quantum physics more than two decades ago doesn’t qualify me to evaluate this interpretation.

The “higher-level features” Mitchell points to are called organizational structures or the functional architecture of the organism. This is where he loses me. He moves from control systems of greater complexity to a sense of self, to higher-level functional architectures that are responsible for choosing among possible options. Over and over, he emphasizes (rightly, to my mind) that it is not neurons or brains that have free will, it is the organism as a whole that does. But I don’t see how that has been scientifically explained.

Mitchell has made an important point (which Sapolsky misses) about the categories of life being fundamentally different from nonlife. But now I wonder whether Mitchell has not quite recognized the importance of the third Big Bang: sentience. This too is a different ontological category (though, again, it might come in degrees and resist stark dividing lines), and therefore necessitates different categories of explanation. That doesn’t mean you need something more than matter to make it work, any more than we need something more than matter to make life work. But I am not persuaded that we get free will and moral responsibility explained by functional architectures.

Free will is a capacity of sentient beings, and both free will and sentience have so far resisted scientific explanation

(the latter being called the “hard problem” of consciousness). Maybe they won’t always resist, but even if they do, that shouldn’t make us doubt free will any more than we doubt sentience.

Reviewed by Jim Stump, vice president of programs at BioLogos and host of their Language of God podcast. Jim’s latest book is The Sacred Chain: How Understanding Evolution Leads to Deeper Faith (HarperOne, 2024).

Letters

Gender Nonconformity in the Next Life

In the article by Haarsma et al., “Congenital Disabilities and Gender Nonconforming Identities as Parts of God’s Intended Creation” (*PSCF* 76, no. 3 [December 2024]: 190–206), the authors build a case for acceptance of the disabled in the Christian community, especially for individuals with gender nonconformity. Their calling this to our attention is to be applauded. Haarsma et al. frequently suggested that a postlapsarian viewpoint has prejudiced the view of disabilities; they make a good scientific case for disabilities existing before Adam and Eve sinned. They further suggest that variation, largely due to mutation, is necessary for evolution to occur and is to be appreciated. However, they take some positions that I consider inconsistent with and misunderstanding of the evangelical church. (I felt it necessary to consult a specific, modern document, that of my church Christ Community Evangelical Free Church (EFC) “Exploring God’s Design for Male and Female Flourishing in the Church,” not at all suggesting it is representative of all evangelical churches or of all churches represented in the ASA. Gender nonconformity is mentioned with compassion, but no specific connection to anyone’s sin is mentioned.)

We have all observed that insensitive Christians often ask well-meaning questions, but I think that the authors have exaggerated the degree this happens as a result of a mistaken belief that disabilities are due to the Fall in Genesis. I doubt that the average church-goer is concerned about theodicy when they offer to pray for a disabled brother or sister. The authors regret “mistaken pity” (p. 197) for the disabled; however, arguably “pity” is what motivates the use of adaptive technology for the deaf to hear and the blind to see.

The most obvious cases of gender nonconformity are genetic and apparent at birth or at least by puberty. Gender dysphoria has not been studied enough to know the causes but perhaps is due to brain anatomy and function, so that the individual’s assigned sex at birth is not how they view themselves. Some may want physical or