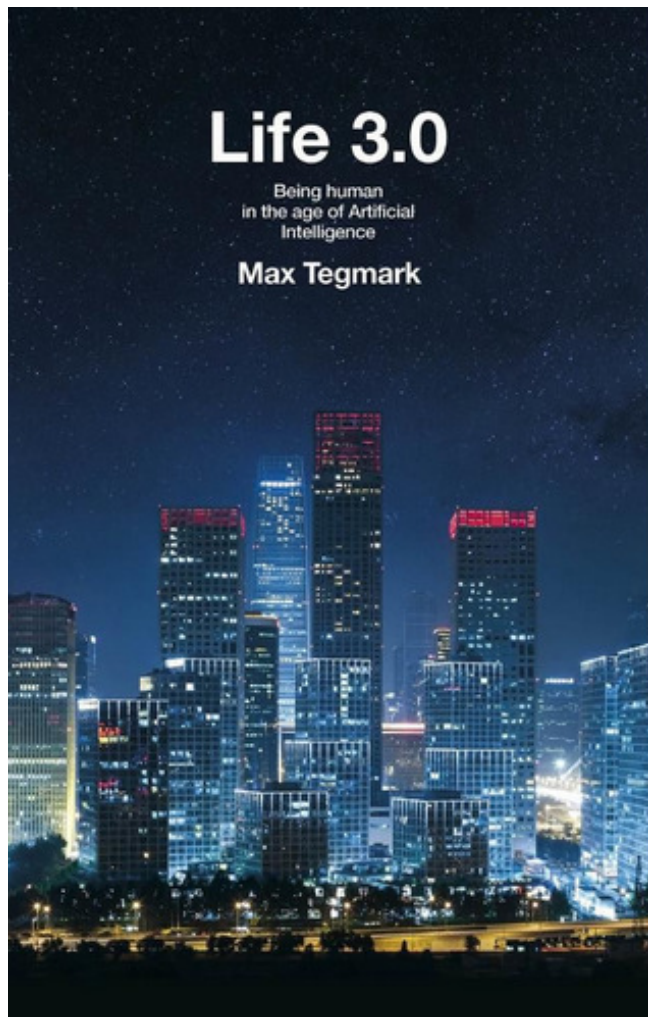


## ‘BIG QUESTIONS’

### Tegmark’s book requires considerable concentration to understand

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*“Life 3.0: Being Human in the Age of Artificial Intelligence” by Max Tegmark. New York: Alfred A. Knopf/Vintage, 2018. 384 pages, \$17 (paperback).*



“When I was a kid, I imagined that billionaires exuded pomposity and arrogance,” Max Tegmark notes near the beginning of “Life 3.0: Being Human in the Age of Artificial Intelligence,” his new treatise on the never-ending dance between humanity and the tools it has created. “When I first met Larry Page at Google in 2008, he totally shattered these stereotypes. Casually dressed in jeans and a remarkably ordinary-looking shirt, he would have blended right in at an MIT picnic. His thoughtful, soft-spoken style and his friendly smile made me feel relaxed rather than intimidated talking with him.”

This simple encounter, captured so eloquently and honestly, can be interpreted as a near-perfect metaphor for what follows in Tegmark’s amazing foray into what it means to be “alive” in the digital, interconnected world. The story he tells literally begins at the moment the universe sprang into existence and ends by speculating where we will be a billion years from now. I challenge you to find a book with a more inclusive or wide-ranging scope.

I was drawn to “Life 3.0” from the moment I first saw it contently situated in the “new releases” section at our local Barnes & Noble Booksellers. This thought-provoking primer is a comprehensive

treatment of how artificial intelligence is transforming our existence in ways most of us can’t even begin to imagine. And even though a pivotal theme percolating throughout the narrative revolves around the notion that we have the power to choose what kind of world we want to inhabit as we move forward, there is also a distinctively cautionary dimension to Tegmark’s vision. As he reiterates consistently from chapter to chapter, in many respects the die has already been cast; i.e., the genie is out of the bottle and there is very little chance we will be able to coax her back into that vessel of solitude.

Think about this for a moment: We are already fighting wars remotely; drones, operated by technicians sitting in comfortable control rooms thousands of miles away from their targets, are already killing people in real time. This kind of war by proxy would not be possible without the rise of sophisticated

AI. The next logical step, according to many, would be to let these advanced proto-sentient computer programs start making the decisions regarding who should live or die. At the heart of Tegmark's thesis is the unavoidable question, "Do we really want to do that?"

At the same time, "Life 3.0" makes it abundantly clear that it is not these lofty dilemmas involving life-or-death scenarios that should concern us the most. Rather, it is the impact AI will have on the lives of the everyday inhabitants of this pale blue dot that should be at the forefront of our discussions. As has been pointed out by many thinkers currently grappling with the increasing use of AI at virtually all levels, the potential for fully-functioning, quasi-aware automated systems to radically alter the fundamental nature of work is perhaps the implication that should command the lion's share of our attention.

"Right now, we face the choice of whether to start an AI arms race, and questions about how to make tomorrow's AI systems bug-free and robust," the author explains in the inaugural chapter. "If AI progress continues to human levels, then we also need to ask ourselves how to ensure that it's beneficial, and whether we can or should create a leisure society that flourishes without jobs."

Tegmark has a B.S. in physics from the Royal Institute of Technology as well as a B.A. in economics from the Stockholm School of Economics; he subsequently earned his M.A. and Ph.D. in physics from the University of California, Berkeley. He was elected to the American Physical Society in 2012. His previous book, "Our Mathematical Universe: My Quest for the Ultimate Nature of Reality," which was published in 2014, caused quite a stir in the scientific community with his assertion that the physical world is actually an abstract mathematical model. Tegmark was also featured in the groundbreaking documentary on artificial intelligence released in 2018, "Do You Trust This Computer?"

Structurally, the book consists of a prelude, epilogue and eight formal chapters: "Welcome to the Most Important Conversation of Our Time," "Matter Turns Intelligent," "The Near Future: Breakthroughs, Bugs, Laws, Weapons and Jobs," "Intelligence Explosion?," "Aftermath: The Next 10,000 Years," "Our Cosmic Endowment: The Next Billion Years and Beyond," "Goals" and "Consciousness."

I purposefully listed the chapter titles to give readers a better sense of the scope and subject matter Tegmark covers in this relatively succinct yet inherently provocative volume. Given the author's academic credentials and background, I genuinely expected "Life 3.0" to be much more difficult to digest. The narrative is as accessible to a general audience, however, as it is to those more versed in the nuanced concepts and potential applications that permeate the manuscript.

Yet make no mistake, "Life 3.0" is a deep book that requires considerable concentration and reflection to fully appreciate. See if you can get your head around this:

"If artificial consciousness is possible, then the space of possible AI experiences is likely to be huge compared to what we humans can experience, spanning a vast spectrum of qualia and timescales – all sharing a feeling of having free will," Tegmark asserts in "Consciousness," the eighth chapter and one of my personal favorites. "Since there can be no meaning without consciousness, it's not our Universe giving meaning to conscious beings, but conscious beings giving meaning to our Universe."

If you like to ponder the proverbial "big questions" and/or are fascinated with predictions about the future – especially predictions history ultimately proves roughly accurate but accompanied by unintended consequences, then "Life 3.0" is right down your alley.

– Reviewed by Aaron W. Hughey, Department of Counseling and Student Affairs, Western Kentucky University.