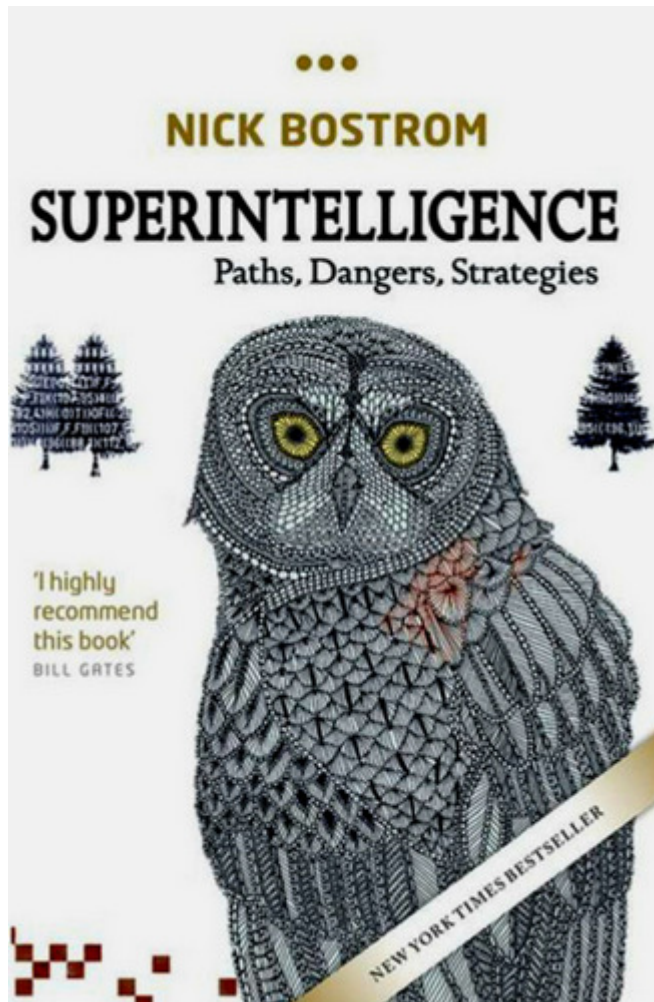


# 'Superintelligence' an enjoyable read

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*"Superintelligence: Paths, Dangers, Strategies" by Nick Bostrom. New York: Oxford University Press, 2016, 390 pages, \$29.95.*



“Machines matching humans in general intelligence – that is, possessing common sense and an effective ability to learn, reason and plan to meet complex information-processing challenges across a wide range of natural and abstract domains – have been expected since the invention of computers in the 1940s,” Nick Bostrom explains near the beginning of “Superintelligence: Paths, Dangers, Strategies,” his new treatise on the evolving capabilities of the digital-networked devices we have at our disposal. “At that time, the advent of such machines was often placed some 20 years into the future. Since then, the expected arrival date has been receding at a rate of one year per year; so that today, futurists who concern themselves with the possibility of artificial general intelligence still often believe that intelligent machines are a couple of decades away.”

“From the fact that some individuals have overpredicted artificial intelligence in the past, however, it does not follow that AI is impossible or will never be developed,” he continues. “The main reason why progress has been slower than expected is that the technical difficulties of constructing intelligent machines

have proved greater than the pioneers foresaw. But this leaves open just how great those difficulties are and how far we now are from overcoming them. Sometimes a problem that initially looks hopelessly complicated turns out to have a surprisingly simple solution (though the reverse is probably more common).”

As you may have surmised, this is definitely one of those books that challenges you to think at a deeper level – one that most of us are capable of but seldom do as we spend most of our time caught up in the minutia of everyday life. In that sense, I found this volume oddly inspiring in an existential sort of way. Unlike Ray Kurzweil, however, an author who explores similar themes (I reviewed Kurzweil’s 2012 book, “How to Create a Mind: The Secret of Human Thought Revealed,” in the Daily News back on March 31, 2013), Bostrom does not have a similar gift for breaking down multifaceted concepts into prose accessible by those without at least a rudimentary background in neuroscience and the myriad of related fields germane to artificial intelligence.

“Superintelligence” is extensively researched, with 44 pages of source notes at the conclusion of the 15 chapters comprising the main narrative. Full disclosure: I struggled to get through many sections of the book. Whereas I am usually a pretty fast reader, this one took me considerably longer to digest than is typically the case. Again and again, I had to reread entire portions of the text, and I often had to Google the terminology Bostrom employs to get a better sense of what he was describing and how it all fits into his overarching thesis. But in the final analysis, it was worth the extra effort. For example, reflect on this excerpt from “Paths to Superintelligence,” the second chapter and one I found especially intriguing:

“Another conceivable path to superintelligence is through the gradual enhancement of networks and organizations that link individual human minds with one another and with various artifacts and bots. The idea here is not that this would enhance the intellectual capacity of individuals enough to make them superintelligence, but rather that some system composed of individuals thus networked and organized might attain a form of superintelligence. Humanity has gained enormously in collective intelligence over the course of history and prehistory. The gains come from many sources, including innovations in communications technology, such as writing and printing, and above all the introduction of language itself; increases in the size of the world population and the density of habitation; various improvements in organizational techniques and epistemic norms; and a gradual accumulation of institutional capital.”

Bostrom is a professor in the Department of Philosophy at Oxford University, where he is also the founding director of the Future of Humanity Institute, “a multidisciplinary research center that enables a set of exceptional mathematicians, philosophers and scientists to think about global priorities and big questions for humanity.” Moreover, he directs the Strategic Artificial Intelligence Research Center. After studying physics and neuroscience at King’s College, he earned his Ph.D. from the London School of Economics. Previous books include “Anthropic Bias: Observation Selection Effects in Science and Philosophy” and “Human Enhancement,” which he co-edited with Julian Savulescu. Interestingly, when he was younger he did stand-up comedy on the London pub and theatre circuit.

More than anything, “Superintelligence” is extremely thought-provoking. “General machine intelligence could serve as a substitute for human intelligence,” Bostrom asserts in “Multipolar Scenarios,” the 11th chapter. “Not only could digital minds perform the intellectual work now done by humans, but, once equipped with good actuators or robotic bodies, machines could also substitute for human physical labor. Suppose that machine workers – which can be quickly reproduced – become both cheaper and more capable than human workers in virtually all jobs. What happens then?”

Good question. In addition to the technological implications, this scenario could have drastic repercussions for our entire economic system and way of life. Freeing up humanity from the intrinsic demands of physical labor seems, on the surface, like a liberating and even desirable idea. Then again, anything that’s too good to be true usually is; we should always be on the lookout for unintended consequences.

In the final analysis, I enjoyed “Superintelligence” immensely. It was a great diversion from what I usually read for either work or personal fulfillment and I found the whole premise fascinating. If you like science fiction shows like “Limitless,” but want a more realistic take on the subject matter, you’d probably find the journey Bostrom takes his readers on to be an exciting adventure. On the other hand, if you are looking for something light and breezy, you’ll probably want to sit this one out.

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