

Martin Rees. *On the Future: Prospects for Humanity*. Princeton: Princeton University Press, revised edition., 2021. xviii + 256 pp. Paperback, \$12.95.

It is quite possible that the future may be more in vogue than it has been for a long time. It is a perennial concern, but a great number of new works have appeared lately, vacillating between doomsday predictions of climate disaster, as in *The Uninhabitable Earth* from journalist David Wallace-Wells, and upbeat hopes for meaningful change, as in *Utopia for Realists*, by the historian Rutger Bregman or in *The Ministry for the Future*, from science fiction maven Kim Stanley Robinson. Standing amidst these polarizing prognostications is British astrophysicist Martin Rees, whose latest in a long line of writings on the future, aptly titled *On the Future: Prospects for Humanity*, attempts a balanced perspective on the perils and promises of the years ahead. Originally published in 2018, Rees has updated the latest edition in 2021 with new reflections on the “global spasm” of COVID19 (p. vii). The pandemic raises the stakes for his overarching work while also supposedly validating his central argument that “Science and technology can . . . be our salvation” (p. xii). In some ways, Rees’ book, though it roots itself in level-headed science, can come across as one of the most ambitious contemporary writings on the future, extending from tomorrow to the next millennium before ultimately circling back and reflecting on the very foundations of science itself.

In his early chapters, Rees starts small, focusing less on predictions and more on possibilities. He offers an inventory of threat assessments ranging from climate change and various forms of ecological disaster to the dangers of technology, including nuclear war, artificial intelligence, and cyber- and nanotechnologies. There are threats of imminent violence, of course, but also slower perils of dislocation, as in the impact of robotics on human labor or of medical breakthroughs on population growth. With such considerations, Rees makes clear that he is not a blind optimist, and it is difficult early on to find much cheer in his analysis. But later he

stresses the relatively low risk of many of the technological catastrophes about which humans so often fret, and he reminds readers of the potential for technological solutions to mitigate others. If there is a common thread in his discussions, it is that the rarity of future catastrophes should not diminish the scale of the danger, and that human societies should develop resilience in the face of the worst-case scenario. “For the first time,” he claims, “we need to contemplate a collapse—societal or ecological—that would be a truly global setback to civilization” (pp. 109–10).

In the second portion of the book, Rees dramatically expands outward in time and space. He looks to the distant future, asking about humankind’s responsibility to far-future generations while also examining the possibilities and risks that attach to more extensive space exploration and utilization. Ever the astrophysicist, Rees discusses the logistics of interplanetary and interstellar travel, beginning with relatively pedestrian questions about the right fuels to use or whether to pursue space travel through private enterprise. Then he moves to much wilder claims about how space may change the human condition. Future space travelers matter, he claims, because “the pioneer explorers will have a more compelling incentive than those of us on Earth to redesign themselves. They’ll harness the super powerful genetic and cyborg technologies that will be developed in the coming decades.” He goes on to write the boldest of posthuman predictions: “This might be the first step towards divergence into a new species” (pp. 150–1).

Having expanded his temporal, spatial, and thematic horizons in the first two thirds of this short book, Rees returns in the end to the parameters of the scientific fields that will give us the breakthroughs he has discussed. He introduces lay readers to debates about the inherent limits of scientific discovery, dabbling in questions about multiverses and string theory and even considering the implications for faith. At the end, he offers advice to future scientists. Just as he

tells his broader audience to “make wise choices” about the risks that face humanity in the near and long-term future (p. 213), so too does he direct the next generation of researchers to adopt a long view, to stick with their fields of study, and to resist the lure of the wider realm of science. Speaking from years of experience, he suggests, “[I]t is unwise to head straight for the most important or fundamental problem. You should multiply the importance of the problem by the probability that you’ll solve it, and maximize that product” (p. 208). Both the advice, and the audience, seem to suggest at last a shrinking of the book’s frame, but Rees is clear that science is quickly becoming the preserve of the many, the “millions of highly-educated amateurs and citizen scientists” who he predicts will shape the future (p. 212). Meanwhile, his words of wisdom are often just as valid for scholars in all fields.

Writing about the future, especially the distant future, gives writers a lease to escape many of the mundane conventions that ground contemporary notions of reality, but they rarely permit them to escape the pull of emotion. Rees is not immune, though he strives for a calm, even-handed approach. His topic is simply too vast, too terrifying, too awe-inspiring for the black-and-white view of sober rationality. And, thus, inherent in his predictions are calls for broad awareness, widespread discussion, and careful steps forward. For this reason, *On the Future* attempts too much, and like all books that discuss the near future cannot always keep pace with the fast-moving events of today, but its length and breadth make it an engaging and timely read for students who may one day contend with some of the challenges it presents. It is fitting for all disciplines, including for social scientists who wrestle with the impacts of technology on society, on the human response to ecological change, and on the policies and practices that attach to the ever expanding realm of discovery and exploration.

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