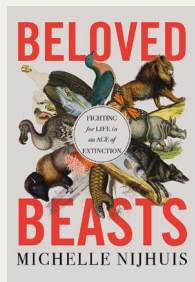


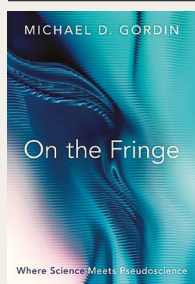
Books in brief



Beloved Beasts

Michelle Nijhuis *W. W. Norton* (2021)

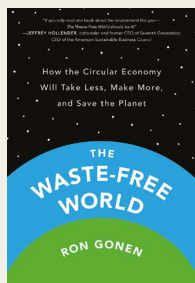
In 2019, a white rhinoceros (*Ceratotherium simum*) was born at a zoo in San Diego, California, as a result of artificial insemination. A related technique using a complex robotic catheter might lead to a free-roaming population of the northern subspecies of white rhino, which is functionally extinct. Such are the complexities of modern conservation covered in science writer Michelle Nijhuis's thoughtful and readable history of people "who did the wrong things for the right reasons, and the right things for the wrong reasons".



On the Fringe

Michael D. Gordin *Oxford Univ. Press* (2021)

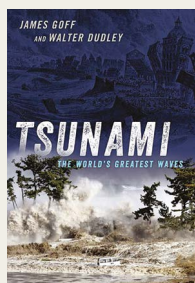
All scientists agree that cold fusion, creationism and Nazi eugenics are examples of pseudoscience. But what about superstring theory (mathematically elegant but untestable), extraterrestrial intelligent life and cosmological inflation? The "mainstream consensus ... turns out to be squishier than you might expect", writes historian of science Michael Gordin in his brief but illuminating survey, provoked partly by the debate over mass COVID-19 vaccination. As long as science exists, Gordin concludes, so will pseudoscience.



The Waste-Free World

Ron Gonen *Portfolio* (2021)

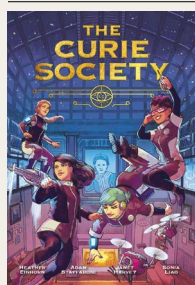
Ron Gonen co-founded New York City company Recyclebank in 2003, and became the city's deputy commissioner for sanitation, recycling and sustainability in 2012. He calls for a "circular economy": investment in advanced technologies involving materials science, product design, recycling and manufacturing to create a zero-waste, "closed-loop" system. Profit, he says, then becomes synonymous with preservation of our health and environment. His clear, practical book will engage anyone who has felt guilty while sorting their rubbish.



Tsunami

James Goff & Walter Dudley *Oxford Univ. Press* (2021)

The term tsunami, derived from Japanese words for 'harbour' and 'wave', first appeared in English in 1896. Today, it means a series of travelling waves of extremely long period, usually associated with earthquakes below or near the ocean floor, note marine geologists James Goff and Walter Dudley. Their expert, general-interest history has chapters on key tsunamis in Lisbon (1755), Chile (1960) and the Indian Ocean (2004), but not, strangely, on the one that wrecked the Fukushima Daiichi nuclear power plant in Japan in 2011.



The Curie Society

Heather Einhorn *et al.* *MIT Press* (2021)

"Now is the time to understand more, so that we may fear less." Marie Curie's words preface this action-adventure graphic novel fostered by a group of female scientists from varied disciplines who aim to inspire young women. Created by Heather Einhorn and Adam Staffaroni with writer Janet Harvey and artist Sonia Liao, it shows the three diverse heroines of the secret Curie Society using brains, resourcefulness and cutting-edge technology to outwit nefarious rogue scientists who threaten the world. Right on! **Andrew Robinson**

on, and attempts to reinforce it led to absurdity. When an Ohio reporter visited New Mexico and wrote in March 1944 about rumours of a secret city that was involved in "tremendous explosions", Groves tried to have him drafted into the military. "This failed," Wellerstein deadpans, "as the reporter was in his sixties."

Wellerstein's book is compelling and frightening as it confronts the reader with the confounding questions that scientists and government officials faced when trying to decide what information should be withheld. It might seem absurd to burn magazines containing well-known information, but if that information, presented authoritatively, ran even a small risk of helping an enemy nation to build weapons, would it not be better to err on the side of caution?

The counterargument was made presciently in the 1970s by nuclear physicist Ted Taylor, addressing a hypothetical terrorist group trying to obtain a nuclear weapon. "Lay off any sophistication altogether," he said, making the point that the existence of fissile material, rather than knowledge about how to make it, was the real danger. "Try and see what is the simpleminded way to make something that could knock over the World Trade Center." As we learnt decades later, it didn't take a nuclear weapon to accomplish that.

Wellerstein's work also raises some intriguing questions about modern secrecy beyond nuclear-weapons research, with ramifications for fields from cybersecurity to political studies. He points out, for example, that a US naval-intelligence analyst was charged with espionage in the 1980s and sentenced to two years in prison for giving satellite photos of Soviet nuclear-aircraft carriers to a British defence magazine. (The analyst, unnamed in the book, is Samuel Morison, later pardoned by president Bill Clinton.)

Fast forward some 40 years, and Reality Winner, an Air Force veteran in her twenties, was sentenced to 5 years in prison for leaking a document showing that Russia had hacked into voter-registration systems in an attempt to interfere with the 2016 US presidential elections. Her leak was illegal, but revealing something that was being talked about nightly on cable news hardly seems as serious as exposing secrets about the nuclear arms race.

How has the modern national-security state reached a point at which the very act of leaking information is considered more threatening to national security than the harm done by exposure? The answer to that needs another book, but Wellerstein has laid the groundwork for whoever chooses to probe that dark corner.

Sharon Weinberger is a national-security journalist and the author of *The Imagineers of War: The Untold Story of DARPA, the Pentagon Agency That Changed the World*.
e-mail: sharonweinberger@gmail.com