

control, which went against many people's religious views and humanist ideals. Aside from decrying the latter notion, Mann engages with none of these ideas.

Instead, Mann turns the ideological divide into a dispute about technological visions, the hard and soft paths (a dichotomy he appropriates from physicist Amory Lovins). Wizards favour 'hard', sophisticated, capital-intensive, top-down methods of ensuring adequate food, water and energy, Mann argues. Prophets believe in simpler, decentralized, 'soft' solutions. But that definition is Borlaugian. It assumes that the goal is to meet ever-greater demand for natural resources — a premise that most Vogtians reject, because they argue that we need to moderate our desires, not just find less destructive ways to slake them. Even if Mann considers that argument naive, fairness demands giving it a hearing.

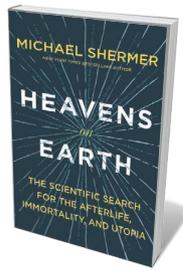
Mann also caricatures proponents of the soft path — particularly Lovins. Lovins is as can-do as any techhead; he's not a counter-cultural guru. Yet he does warn in *Soft Energy Paths* (Friends of the Earth International, 1977) that hard technologies lead to undemocratic concentrations of power, as major oil companies have proved. He is also a leader in making the market greener, as a consultant to corporations and as co-author of *Natural Capitalism* (Little, Brown, 1999). Although Mann dismisses him as a retro activist, Lovins would be a worthy antagonist for any Borlaugian.

And it's to the Borlaugians that Mann is most generous. He considers the evidence for the safety of genetically engineered crops as compelling as the scientific consensus on climate change. He holds out hope for nuclear power. And he barely acknowledges that history provides countless reasons for anxiety about unintended consequences of technology. From plastics to chemical pesticides, many twentieth-century miracles have done harm as well as good. Even some technology boosters admit that surprises are inevitable, although they remain undaunted. As the automotive pioneer Charles Kettering liked to say: "The price of progress is trouble, and I don't think the price is too high."

Mann asserts that those who lean towards Vogt's world view can't prove that we'll hit planetary limits. But the heirs of Borlaug can't prove that they'll avoid making a mistake that undermines the ecological or planetary foundations of civilization. Where does that leave us? The Wizards have had most of the momentum since the Enlightenment. The Prophets keep the Wizards from overreaching, and challenge us to probe what we really value. We need to listen carefully to both. ■

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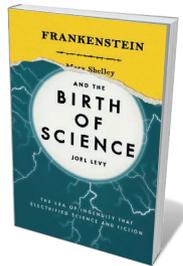
Books in brief



Heavens on Earth

Michael Shermer HENRY HOLT (2018)

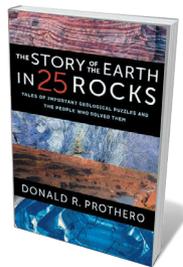
An astonishing 75% of US citizens — including some avowed atheists — believe in an afterlife. So potent is the idea of immortality, reminds *Skeptic* magazine publisher Michael Shermer in this intriguing study, that it pervades human culture. After exploring the notion's place in religious belief, Shermer examines its scientific manifestations, from transhumanism and longevity research to cryonics. He looks, too, at utopianism as the desire to create an earthly paradise. He concludes that balanced rationality — along with an honest, positive acceptance of mortality — constitutes the real "soul" of life.



Frankenstein and the Birth of Science

Joel Levy ANDRE DEUTSCH (2018)

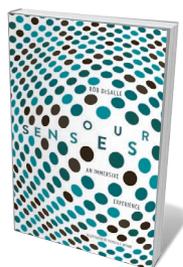
The bicentennial of Mary Shelley's masterwork *Frankenstein* is upon us. And one of the first homages of the year is this episodic, entertaining analysis by science writer Joel Levy. He presents the novel as a portrayal of high-Romantic "gonzo science", as well as science fiction. Levy contextualizes Shelley's narrative with contemporary research into areas such as galvanic revivification, psychoactive substances and polar discovery (as Victor Frankenstein and his monster travel to the North Pole). A celebration of an enduring classic's "extraordinarily rich confluence of sources".



The Story of the Earth in 25 Rocks

Donald R. Prothero COLUMBIA UNIVERSITY PRESS (2018)

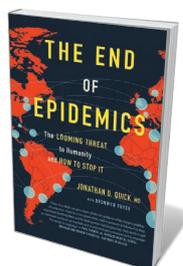
Geologist Donald Prothero has crafted a rock-solid premise for this delightful book: a tour of 25 geological discoveries that changed our understanding of Earth and the cosmos. He begins explosively, with Pliny the Younger's eyewitness account of the eruption of Vesuvius in southern Italy in AD 79 — the first scientifically accurate description of such an event. He then reveals how deep time, the Moon's origins and other 'stories in stones' were cracked by luminaries from Enlightenment geologist James Hutton to Marie Tharp, who mapped the Atlantic Ocean's floor in the 1950s.



Our Senses

Rob DeSalle YALE UNIVERSITY PRESS (2018)

Sight, hearing, touch, smell, taste: the senses are our portal to the world. But this erudite, zesty study by Rob DeSalle, curator at the American Museum of Natural History in New York City, ranges far beyond these "big five" into arenas such as balance, pain, heat and cold. DeSalle examines sense in an array of fauna, including comb jellies, lampreys and bats. He digs deepest, however, into how perception is formed in the human brain, how phenomena such as synaesthesia arise, how people with brain damage experience the world, and how our sensory armoury feeds creativity.



The End of Epidemics

Jonathan D. Quick and Bronwyn Fryer ST MARTIN'S PRESS (2018)

Physician Jonathan Quick's long experience at the front lines of global public health gives his call to action on pandemics a searing urgency. With writer Bronwyn Fryer, Quick examines how fear and complacency impede responses to emergencies such as the 2014 Ebola epidemic in West Africa. He then sets out a seven-part solution centred on actions such as establishing resilient health systems and mobilizing on-the-ground activism. Pragmatic, insightful and research-rich, this is a key volume for the policymaker's shelf. [Barbara Kiser](#)