editing embryos, sperm and eggs should be banned for now (see E. Lanphier *et al. Nature* **519**, 410–411; 2015). And earlier this year, Zhang and others recommended that scientists come up with a framework that governments could use to evaluate research proposals as the science of gene editing progresses (see E. Lander *et al. Nature* **567**, 165–168; 2019).

Still, other scientists can't contain their excitement. Stephen Hsu, a co-founder of Genomic Prediction, a genetic-testing company for *in vitro* fertilization in North Brunswick, New Jersey, suggests that, eventually, editing could advance humanity by making people healthier, longer-lived or more intelligent. The documentary pushes him on this point, and flashes a Nazi propaganda clip. Hsu counters that his vision is different from eugenics because the choice to edit is made by parents.

Troubling development

Alta Charo, a bioethicist at the University of Wisconsin–Madison, also dismisses certain fears, pointing out, for example, that characteristics such as intelligence are controlled by multiple genes and by the environment. But she concedes that there is a risk to editing, and therefore it shouldn't be used frivolously. Just 30 out of 195 countries have banned the editing of human embryos, sperm and eggs in the clinic with CRISPR, and the rules might not govern pure research.

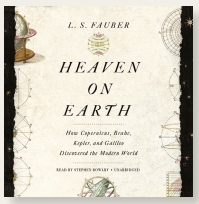
Human Nature traces CRISPR up to a pivotal moment. The film was nearly finished when the news was reported last November that twin girls had been born after Chinese biophysicist He Jiankui had used CRISPR to edit their embryos. So the film-makers just spliced this development in as an afterthought. After the heroes of the film had spent so much time expounding on the need to prevent this outcome, its sudden fruition is troubling.

Asked why the film-makers didn't revise the documentary to focus on the case, Kirschner says that they decided there was value in what they had: a film on CRISPR's origins. Plus, we truly don't know what will happen next. Kirschner writes: "It is impossible to tell whether it will ultimately be seen as an inflection point or an aberration."

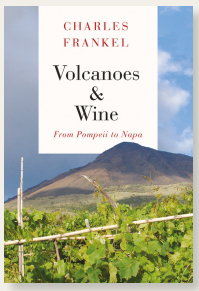
The Wonder Collaborative had considered creating just a brief CRISPR explainer. I'm glad the group opted for a full-length feature: it gives them time to strike a nerve. For me, this happened in the scenes with Sanchez. At the end of the film, after so many researchers have gushed about the power of CRISPR to cure disease, the interviewer asks Sanchez if he wished his parents had used the tool to prevent his being born with a deadly condition. Sanchez pauses, and says no: "I don't think I'd be me."

Amy Maxmen writes for *Nature* from Oakland, California.

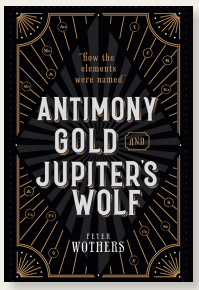
Books in brief



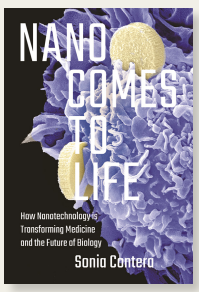
Heaven on Earth
L. S. Fauber *Pegasus* (2019)
Four towering sixteenth-century scientists — Nicolaus Copernicus, Tycho Brahe, Johannes Kepler and Galileo Galilei — discovered heliocentrism at a time of sociopolitical tumult. As L. S. Fauber drives home in this dynamic science history, their intermeshed stories form a mighty "intergenerational epic" sweeping in the likes of Brahe's sister Sophie and Galileo's daughter Virginia. A wonderfully wrought explication of how a powerful thesis began its journey to becoming unavoidable fact, and seeded modernity in the process.



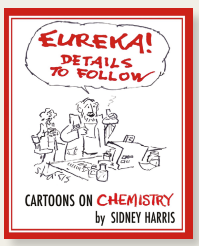
Volcanoes and Wine
Charles Frankel *Chicago University Press* (2019)
For this intriguing exploration of volcanism and viniculture, Charles Frankel scoured geologically active regions to trace how soils and landforms shape local wines. He begins with the 1620 BC eruption on Santorini that left the Greek island little more than a caldera, yet created ideal conditions for growing Assyrtiko grapes, used in unctuous Vinsanto. No less gripping are Frankel's descriptions of the deep-time lava flows and flooding that formed Oregon's Pinot-growing Willamette Valley. A gem for geologists and wine buffs alike.



Antimony, Gold and Jupiter's Wolf
Peter Wothers *Oxford University Press* (2019)
Hydrogen, caesium, silver: how were elements named? In this stimulating chemical chronicle, Peter Wothers unravels tangled etymologies. Eighteenth-century chemist Antoine Lavoisier, for instance, named oxygen to signify 'acid-former', only to have the word construed as "the son of a vinegar merchant". W, the symbol for tungsten, is a nod to its traditional moniker wolfram (derived from 'wolf-foam'). From copper to californium, we discover how the sober face of the periodic table hides dramatic backstories.



Nano Comes to Life
Sonia Contera *Princeton University Press* (2019)
Nanotechnology researcher Sonia Contera's succinct study surveys the progress of nano-tools in biological and medical research. As she relates, there is much in development: DNA technology aimed at crafting nanoscale machines to target specific cancer cells; nano-antibiotics for fighting infection; and nano-approaches to tissue engineering. Contera frames this near-future transmaterial science, with its focus on human well-being, as an effort allied to social justice even as it probes existential questions of what it means to be human.



Eureka! Details to Follow
Sidney Harris *Science Cartoons Plus* (2019)
After a year of bouts at the bench (and blasts of bad news), you may need relief. Science cartoonist Sidney Harris — whose work has graced the pages of many journals, including *Nature,* offers an ace antidote in this irreverent look at chemistry. Here is Lewis Carroll's Alice, thwarted by a looking-glass made of Lexan polycarbonate resin; two chemists absorbing the news that "you can't both be the 'father' of ammonium pentoxide phosphate"; the Institute for Advanced Hindsight; and oodles more. **Barbara Kiser**

Correction

Books in brief

This article (*Nature* **576**, 207; 2019) gave the wrong initials for the author of *Heaven on Earth*; the book is by L. S. Fauber.

See https://doi.org/10.1038/d41586-019-03757-0