

Dorset home. He thanked her: “the delights I taste in it, make me fancy my laboratory a kind of Elysium” (spelling modernized). In 1668, he moved permanently into Ranelagh’s home in London’s fashionable Pall Mall.

Ranelagh collected and exchanged recipes to treat common ailments, not unusual for women of the time. However, she and Boyle used empirical methods, testing products in the laboratory and recording the results. Boyle claimed that Ranelagh had cured dozens of children of rickets using a copper-based compound. She also took down another’s first-hand account of an experiment that would now be classified as alchemy: the transmutation of metals. She influenced Boyle’s writing on moral matters, and encouraged his advocacy of empiricism and dismissal of Aristotelian ideas.

### Edged out

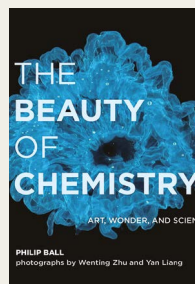
During the 1660s, the Royal Society moved into the intellectual space of the Hartlib circle, but it was more exclusive and politically conservative. It communicated through print publication and public demonstration, from which women were almost entirely excluded. A visit in 1667 by the outspoken writer Margaret Cavendish, Duchess of Newcastle, was an experiment not repeated. Cavendish arrived late, dressed ‘immodestly’ and treated the demonstrations with condescension. Her “boldness and profaneness is allowed to pass for wit”, Ranelagh wrote to another brother. This criticism of Cavendish burnished her own reputation for propriety, which enabled her to establish links with many of the society’s members even though she could not be admitted.

DiMeo is scrupulous in tethering her observations to their archival sources. As a result, she sometimes underplays the historical context of this impressive woman’s story. Ranelagh lived through violent rebellion, civil war, a king’s execution, religious intolerance, a grim protectorate followed by a riotous restoration, plague, fire and another king deposed. DiMeo notes these events, but I longed for the sound and colour of such turbulent times.

Ranelagh died in 1691. Boyle, broken-hearted, followed a week later, and they were buried together. At the funeral, the bishop of Salisbury declared that Ranelagh “made the greatest figure ... of any woman of our age”. Yet, DiMeo tells us, her life “quickly became a shadow”. Whereas Boyle made sure that his papers and published works survived for posterity, Ranelagh left no archive and published nothing. That her story is gathered from the papers of her male relatives and associates highlights how easy it is for women to fall through the cracks of history.

**Georgina Ferry** is a science writer and the biographer of researchers Dorothy Crowfoot Hodgkin and Max Perutz.  
e-mail: mgf@georginaferry.com

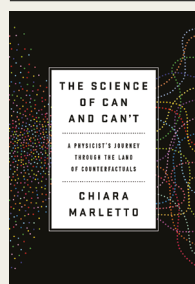
## Books in brief



### The Beauty of Chemistry

Philip Ball *MIT Press* (2021)

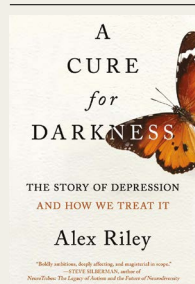
When Francis Crick and James Watson discovered DNA’s double helix, they privately called it “beautiful”, says science writer Philip Ball. But in 1953, “such expressions of exuberance were not welcomed in the austere annals of science”. Ball’s scintillating book is a paean to chemical beauty in nature and laboratories, with lavish images created by Wenting Zhu, Yan Liang and the Chinese Chemical Society, using microphotography, time lapse, thermal imaging and more. Would that it had existed when I was an undergraduate chemist.



### The Science of Can and Can't

Chiara Marletto *Viking* (2021)

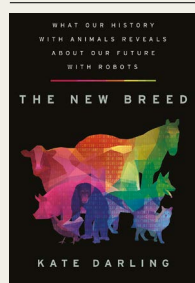
GPS depends on phenomena described in the general theory of relativity, but nothing in the theory predicted it. The possibility of GPS was thus a “counterfactual”, notes theoretical physicist Chiara Marletto, whose engaging book centres on these “facts about what could be”. By restricting itself to statements about initial conditions and laws of motion, she says, physics “is missing something essential”. Similarly, electron–proton attraction underlies our bodies’ chemistry — but there is no trace of biological complexity in the laws of physics.



### A Cure for Darkness

Alex Riley *Scribner* (2021)

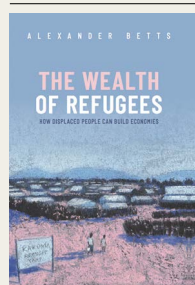
Working at London’s Natural History Museum, Alex Riley published his first academic paper. It didn’t satisfy him. Later, he began to cry in a supervisory meeting, and left academia. Now a science journalist, he has received diverse professional advice and treatment for depression. His first book, a substantial and revealing history of the condition, is thus both subjective and objective, grappling with the opposing psychological and biological therapies of pioneering psychiatrists Sigmund Freud and Emil Kraepelin, and their divided successors.



### The New Breed

Kate Darling *Henry Holt* (2021)

The word ‘robot’, from the Czech for ‘forced labour’, was coined in a 1920 play by Karel Čapek about artificial people, exploited in factories, who rebel against their makers: a conflict-based, influential vision of artificial intelligence. Technology ethicist Kate Darling pursues a different view in her original, humane book. She compares robots with animals, long used for work, weaponry and companionship. “Like robots, animals can sense, make their own decisions, act on the world, and learn.” But they cannot replace human beings.



### The Wealth of Refugees

Alexander Betts *Oxford Univ. Press* (2021)

More than 80 million people are currently displaced; at least 25 million are refugees, driven to leave their country. Alexander Betts has studied them for many years, focusing on camps and cities in Africa. The challenging title of his avowedly practical study — considering ethics, economics, politics and policy — was inspired by Adam Smith’s 1776 book *The Wealth of Nations*, which argued that countries flourish when citizens can pursue their own interests. Such autonomy is also desirable, argues Betts, for today’s refugees. **Andrew Robinson**