

German word *stufenweise* ('phased') instead of *periodische* ('periodic'); as a result, Meyer claimed precedence for his own research. When Mendeleev objected, Meyer replied: "It seems to me an excessive demand that we German chemists read, besides those articles appearing in the German and Romance languages, also those in the Slavic languages". He did not mention English.

By the end of the nineteenth century, scientists everywhere were obsessed with a multilingual information overload — Gordin's scientific babel. The solution seemed to be an auxiliary universal language. Volapük ('Worldspeak') was invented in 1880; the better-known Esperanto arose in 1887, and its offshoot, Ido, arrived in 1907. Gordin sympathetically analyses these artificial languages — taken seriously by leading scientists of the time — through the lens of Ido advocate Wilhelm Ostwald, a Nobel-prizewinning German chemist. In-fighting dissolved the movement, and Ostwald abandoned Ido during the First World War, championing German as an international language.

During the cold war, and especially after the Soviet Union launched Sputnik in 1957,

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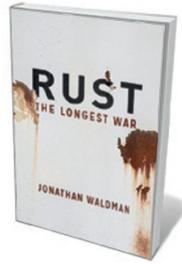
much scientific attention switched to literature in Russian, which by 1970 reached 20% of the global output. In 1961, 85 Soviet journals were being translated into English, with US gov-

ernment funding. Preposterous claims were made for machine translation from Russian into English. Both translation programmes were eventually abandoned in favour of increased Russian-language teaching for US scientists — until the 1991 collapse of the Soviet Union sealed the fate of scientific Russian beyond its own borders. A lively Russian-language journals scene still prevails in Russia.

Anglophone dominance is unlikely to change soon, says Gordin. If scientific importance were based on population, Spanish would be a major scientific language; if on geopolitical power, scientists would publish much more in Chinese. In the 1660s and later, philosopher and mathematician Gottfried Leibniz advocated a universal writing system for science independent of any spoken language, similar to mathematical notation. This must stay a dream: intellectual activity demands language. As the polyglot Gordin concludes, "we remain bound to the constraints of history, to the shackles of the words in human languages: untranslatable yet intelligible, frustrating yet infinitely beguiling". ■

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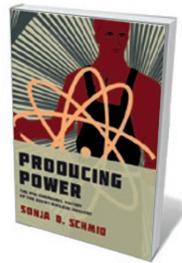
Books in brief



Rust: The Longest War

Jonathan Waldman SIMON AND SCHUSTER (2015)

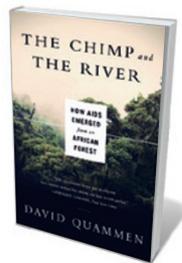
Corrosion has killed people in nuclear power plants, taken out planes in mid-air and reddened the face of Mars. So notes environmental journalist Jonathan Waldman in this dexterous technological study of this insidious process, which is nibbling away at Western civilization. The science compels, but what leap from the page are Waldman's snapshots of rust geeks — such as the team that rebuilt the hole-ridden metal skin of New York's Statue of Liberty in the 1980s, and Bhaskar Neogi, 'integrity manager' of the Trans-Alaska Pipeline System, one of the heaviest metal objects in the Western Hemisphere.



Producing Power: The Pre-Chernobyl History of the Soviet Nuclear Industry

Sonja D. Schmid MIT PRESS (2015)

In the annals of nuclear meltdown, the April 1986 explosion at Chernobyl in Soviet Ukraine remains the most devastating, contaminating thousands of square kilometres of land. This trenchant study by science historian Sonja Schmid digs deep into the catastrophe's tangled prehistory to make nuanced sense of it. She unravels key scientific, social and political factors, from the plant's lack of 'redundant' safety features to rivalries in the Soviet nuclear industry and inefficiencies in the country's economy.



The Chimp and the River: How AIDS Emerged from an African Forest

David Quammen W. W. NORTON (2015)

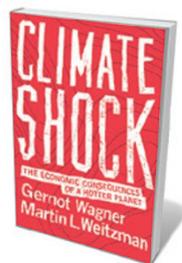
This intense study of the origins of AIDS is excerpted and adapted by David Quammen from his book *Spillover* (W. W. Norton, 2012; see N. Wolfe *Nature* **490**, 33; 2012). With Sherlockian verve, Quammen traces the trail from the first human cases, through labs around the world, and finally to virologist Beatrice Hahn's discovery that simian immunodeficiency virus (SIV), from which HIV-1 is derived, can kill wild chimpanzees. Quammen's portrait of the real 'Patient Zero' as a Cameroonian hunter clumsily butchering a chimp is a masterful summing-up of the evidence.



Science in Wonderland: The Scientific Fairy Tales of Victorian Britain

Melanie Keene OXFORD UNIVERSITY PRESS (2015)

The prodigious pace of Victorian research — from the unearthing of dinosaur fossils to the laying of a transatlantic telegraph cable — posed a stiff pedagogical challenge. To deliver the new findings on nature to the public, writers seized on the era's obsession with the supernatural. Science historian Melanie Keene argues here that many "fairy tales of science" were educational gems: by harnessing tropes of the genre to communicate facts, they evoked a scientific wonder that truly came into its own in the age of quantum mechanics and relativity. (See M. Keene *Nature* **504**, 374–375; 2013.)



Climate Shock: The Economic Consequences of a Hotter Planet

Gernot Wagner and Martin L. Weitzman PRINCETON UNIVERSITY PRESS (2015)

Economists Gernot Wagner and Martin Weitzman deliver a high-voltage shock in their analysis of the costs of climate change. With uncurbed emissions predicted to rise steeply by 2100, a radical reframing of the catastrophe as a global risk-management issue is due, they argue. Their blueprint is a three-step response: scream (call for business and policy-makers to snap to it); cope (adapt rapidly to events); and profit (invest in green industry). **Barbara Kiser**