

Books & arts

government was a primary cause of the US addiction to fossil fuels, the point Speth's report was commissioned to demonstrate.

Speth was an inspired choice of witness. Drawing on first-hand knowledge from his time as chair of the US Council on Environmental Quality during the administration of president Jimmy Carter (1977–81), and his founding role in several major environmental non-governmental organizations, Speth gives a clear and concise account of the scientific evidence available to successive US presidents and Congresses over five decades. He provides a chilling description of the gulf between the safer course of action recommended by scientists and advisers, and the reality of federal policy. Given the book's original purpose – an exhaustive presentation of evidence – at times it can seem like a laundry list of warnings ignored. Fortunately, Speth peppers it with gripping insider details.

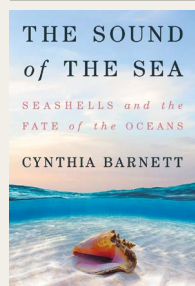
One compelling example: the speed with which the administration of George H. W. Bush (1989–93) turned away from early recognition of the benefits of using policy to reduce climate risk, and became dominated by staffers who used material from the fossil-fuel industry to cast doubt on the science. The administration of Bill Clinton (1993–2001) ran a miscalculated public-awareness campaign that actually increased the partisan divide in perceptions of climate science. These episodes offer fascinating insight into subsequent events.

Much of the story is not new. Elements of the interactions between the US fossil-fuel industry and the federal government have been charted elsewhere, such as in the work of science historian Naomi Oreskes, or in climate scientist Michael Mann's book *The New Climate War* (2021). Yet even for the familiar reader, Speth's focus on the federal government provides a fresh perspective.

A key feature of the Australian and Dutch cases is that, unlike many before them, they establish a legal responsibility for the defendants to act now and in the future. The important issue was not what the minister or Shell knew in the past, but what they should do now, in the light of the global consensus on the climate threat. Although establishing the parameters for future decisions is a crucial goal of climate litigation, Speth's book reminds us that major questions about historic responsibility cannot be ignored. In the US context, the *Juliana* plaintiffs have begun settlement talks with the administration of President Joe Biden and vice-president Kamala Harris, which might lead to answers. Around the world, similar reckonings with the past are just beginning.

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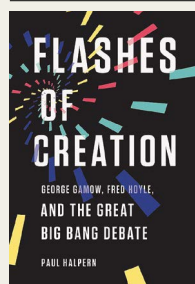
Books in brief



The Sound of the Sea

Cynthia Barnett *W. W. Norton* (2021)

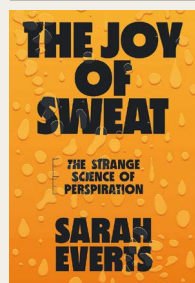
"Seashells were money before coin, jewellery before gems, art before canvas," says science writer Cynthia Barnett in her arresting meditation on shells and ocean history. Consider *Monetaria moneta*, the money cowrie. Carried as ships' ballast, it was the main currency used in West Africa for the trans-Atlantic trade in enslaved people. Oil company Shell – subject of one chapter – grew from a nineteenth-century firm selling East Asian seashells for interior decor in Europe. Its ship *Murex*, named after a spiny mollusc, was the first oil tanker to traverse the Suez Canal.



Flashes of Creation

Paul Halpern *Basic* (2021)

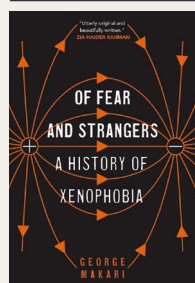
Astrophysicist Fred Hoyle coined the term Big Bang in a 1949 radio broadcast to mock the theory of cosmologists including George Gamow, who later popularized the idea in his 1952 book *The Creation of the Universe*. Hoyle preferred a never-ending process of creation, a 'steady state'. Albert Einstein also distrusted the idea. Physicist Paul Halpern retells this conflict in his highly engaging history, while noting that today's dominant Big Bang cosmology leaves dark energy and cold dark matter unexplained.



The Joy of Sweat

Sarah Everts *W. W. Norton* (2021)

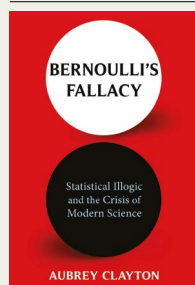
Most animals do not sweat to regulate their body temperature. Some evolutionary biologists even argue that perspiration helped humans to dominance, notes science journalist Sarah Everts in her well-researched, zesty study. Certainly, we are ambivalent about it. Most cultures institutionalize sweating, for example in gyms, saunas and bathhouses. Yet we also spend significant money on deodorants and laundry products. "Sweat may be sticky, stinky and gross, but it's also one of our most fascinating and little understood secretions."



Of Fear and Strangers

George Makari *Yale Univ. Press* (2021)

Historian and psychiatrist George Makari comes from a Lebanese family that emigrated to the United States, he explains in a prologue to his diverse and scholarly history of xenophobia, provoked by the US election of Donald Trump in 2016 and the UK Brexit referendum. "Xenophobia had come back from the dead," he says, and was no longer "some antiquated, classical term". He discovers that despite its ancient Greek etymology – *xenos* for 'stranger' – the term dates from the late nineteenth century: the age of imperialism.



Bernoulli's Fallacy

Aubrey Clayton *Columbia Univ. Press* (2021)

The COVID-19 pandemic reminds us of the importance of statistics and the difficulty of interpreting them. "Probability opens doors for us and then trips us up," comments mathematician Aubrey Clayton in his densely challenging history. He rebuts the argument of seventeenth-century mathematician Jacob Bernoulli that data alone permit objective inference, which ignores the subjectivity inherent in assigning probability. Scientists must reject the authority of frequentist statistics, he argues: better to adopt a Bayesian approach. **Andrew Robinson**