

sinks is recycled to flush toilets. But he is too wise to find a silver bullet in any solution, or to dismiss any out of hand. The undercurrent in this book is that the way forward lies in answers — from the biological to the sociological — that suit the local culture.

Sedlak and Barlow agree that our world-wide failure to value water is at the heart of the problem. Both believe in community participation in decision-making. And both endorse a strong role for public investment in water, particularly in research and in setting guidelines. There, their paths diverge. Where Sedlak seeks to explain the science and technology, Barlow seeks to expose the power relationships.

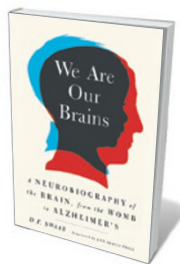
In *Blue Future*, Barlow, a citizens' advocate, makes a passionate plea for the societal change needed to honour the United Nations' 2010 resolution that water and sanitation are a human right. The powerful few, Barlow argues, are blocking this transformation, which would benefit the powerless many. *Blue Future* expands the language of the UN right to encompass all uses of water, and calls for management by a public-trust regime under which all competing uses for watersheds or aquifers would be decided according to a hierarchy of use managed by public agencies.

Barlow has published some 16 books — spirited critiques of issues such as water metering and of bodies such as the World Bank. In *Blue Future* she is also critical of water privatization, which she sees as covering most forms of participation by the private sector, including companies that own no part of the resource or infrastructure but are contracted to carry out government policies. (Only Britain and Chile have privatized water itself — having sold the resource to private companies for onward sale.) And she questions commodification — that is, the use of water markets, price mechanisms, purchase by beverage or mining companies, sale on open markets, and leases to resource extractors, as well as the conversion of utilities to corporatized entities. Looking at one such case in Ireland, Barlow somewhat ingeniously suggests that a water price hike is not needed because Ireland has a lot of water. Yet payments into municipal systems are needed to cover costs: pipes, chemicals, personnel, security and energy for pumping.

However, Barlow's primary concern (and Sedlak would heartily concur) is that "most political leaders ... create policy decisions as if there were no end to water supply". That is the problem in a nutshell. ■

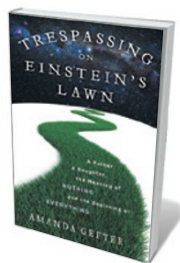
Margaret Catley-Carlson serves on a dozen boards, advisory committees and juries focused on water and agriculture, including the UN Secretary-General's Advisory Board on Water & Sanitation and the Canadian Water Network.
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Books in brief



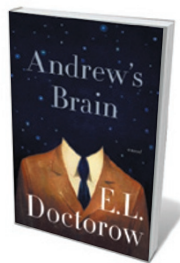
We Are Our Brains: A Neurobiography of the Brain, from the Womb to Alzheimer's

D. F. Swaab (translated by Jane Hedley-Prôle) SPIEGEL & GRAU (2014)
In this tour of the human brain's often bumpy terrain, neuroscientist Dick Swaab argues that most of what shapes us happens in the womb. His survey is comprehensive, covering fetal development, sexual differentiation and disorders, birth, early childhood, consciousness, morality, memory and conditions from autism to Alzheimer's disease. The vast scope of this Dutch best-seller demands concision, but Swaab manages to rope each topic and wrestle it to the ground without breaking into a sweat.



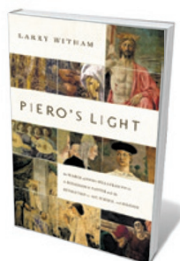
Trespassing on Einstein's Lawn: A Father, a Daughter, the Meaning of Nothing and the Beginning of Everything

Amanda Gefter BANTAM (2014)
Something can come from nothing. So found Amanda Gefter: a question from her father about the nature of nothing propelled her into science journalism. In this mix of memoir and science, Gefter chronicles her quest to understand the big conundrums through study of the physics literature and meetings with remarkable theoreticians from John Archibald Wheeler to Lisa Randall. Her journey to the insight that reality is in the eye of the beholder is wittily told, but the reverential tone of her starry encounters may jar.



Andrew's Brain: A Novel

E. L. Doctorow RANDOM HOUSE (2014)
A cognitive neuroscientist is talking to a psychotherapist — or is it a prison warden? In this spiralling, scientifically savvy narrative on the interplay of brain and mind, distinguished novelist E. L. Doctorow gives us Andrew, an academic recounting his doom-ridden life in snapshots. Doctorow tackles consciousness, free will and memory with elan. The wondrous, sometimes terrifying twists of the human imagination are shot through with gallows humour, thought experiments and even political commentary — and set to a shifting, propulsive rhythm reminiscent of a Philip Glass symphony.



Piero's Light: In Search of Piero della Francesca: A Renaissance Painter and the Revolution in Art, Science and Religion

Larry Witham PEGASUS (2014)
The unearthly power of Renaissance artist Piero della Francesca's works is attributable as much to skill in spatial illusion and complex perspective as to artistic brilliance, Larry Witham shows. This study of Piero's impact reveals a mathematician and geometer who helped to bridge the way to Galileo. Along with paintings such as *The Flagellation of Christ* — which fuse maths, classical Platonic science and innovative handling of light — Piero authored influential treatises such the *Little Book on Five Regular Solids*.



Uncharted: Big Data as a Lens on Human Culture

Erez Aiden and Jean-Baptiste Michel RIVERHEAD BOOKS (2013)
Thanks to Google Books' digitization of millions of texts dating back centuries, big data is now long data. Erez Aiden and Jean-Baptiste Michel mine the riches using "culturomics", quantifying history by graphing the occurrence of concepts and words in texts over time. In this lively overview, the authors reveal how the robotic historian that they created — the Google Ngram Viewer — has since 2010 been churning out analyses of everything from the efficacy of government censorship to the speed at which society learns. *Barbara Kiser*