

only criticism of the book is that the student who telephoned is not named. I believe her to be Diane Hartley, who was then studying under David Billington at Princeton University — a surprising omission for that institution's own press.

The other difficult case is the John Hancock Tower in Boston. Its problems were more subtle, although equally alarming. Again, the issue involved wind forces from directions that had not been considered, and required the retrofitting of stiffening and dampers, at great expense, to make the structure safe. From now on, I shall refer students and professors alike to Roberts' clear account.

I did begin to wonder whether the ultimate outcome of Davenport's life-long effort was allowing financiers to inhabit lofty eyries without overly endangering the people below. But the last chapter focuses on his determined efforts at disaster mitigation for the vulnerable. For example, in the Caribbean, he has worked on hurricane-resistant houses and was involved in numerous international initiatives that worked on disaster mitigation at a human scale.

Roberts has written a largely equation-free book in which technical subtleties such as aeroelasticity and Davenport's statistical description of turbulent buffeting are set out clearly, engagingly and accurately. Her precise, vivid phrases, such as vortices "pushing and shoving the structure this way and that like a gang of bullies", will enliven my future lectures.

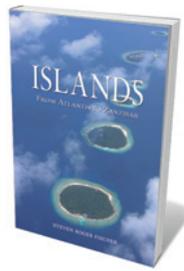
Two of the projects studied show the potential for disaster posed by skyscrapers.

Before opening the book, I had decided to look out for two potential pitfalls. First, would the book acknowledge the alternative to Davenport's statistical theory of buffeting — the rapid distortion theory developed by Julian Hunt? It does. Second, would the story of the famous 1940 Tacoma Narrows Bridge collapse in Washington state fall back on the lazy and inaccurate 'resonance' description that most physics textbooks adopt? It does not. Instead, Roberts gives faultless coverage of work by engineers Robert Scanlan and, more recently, Allan Larsen to explain the physics of what actually happened.

This is my field, but I learned much from Roberts' admirable book, and emerged with great respect for both Davenport and his chronicler. ■

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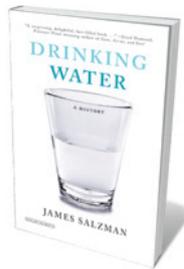
Books in brief



Islands: From Atlantis to Zanzibar

Steven Roger Fischer REAKTION BOOKS 352 pp. £22 (2012)

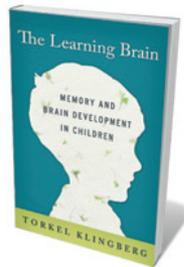
From Charles Darwin's moment in the Galapagos to the cultural efflorescence of Minoan Crete, islands are "crucibles and cradles" — laboratories, havens, touchstones. In this tour of their biology, geology and culture, linguist Steven Roger Fischer offers a taste of the million or so mini-biomes studding Earth's rivers, lakes and oceans. He is a brilliant guide, whether discussing the anti-cancer properties of the Madagascar periwinkle, Papua New Guinea's 500 languages, the imagined isle where Shakespeare's Prospero abjured his 'rough magic', or the very real threat climate change poses to many islands.



Drinking Water: A History

James Salzman OVERLOOK 320 pp. \$27.95 (2012)

Potable water permeates humanity's past and is set to dominate its future. The United Nations estimates that by 2030, more than half of us will live in water-scarce areas. Environmental-policy specialist James Salzman goes with the flow in this absorbing chronicle of our complex relationship with H₂O. He negotiates multiple currents: the 'cures' ascribed to sacred waters; the ongoing struggle to eradicate microbes and dicey chemical compounds; urban waterworks and politicized availability; scarcity and bulk water transfers; and today's search for water — a quest awash with uncertainty.



The Learning Brain: Memory and Brain Development in Children

Torkel Klingberg OXFORD UNIV. PRESS 200 pp. \$24.95 (2012)

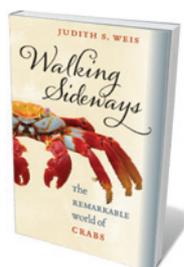
In this pragmatic treatise on how children learn, neuroscientist Torkel Klingberg homes in on working memory. Klingberg has marshalled swathes of research and pertinent case studies to show how gaps in this form of memory can lead to educational failure, and how training the young in tested techniques can help. Enriching his argument with findings — from the role of white matter to the corrosive effects of stress — he concludes that key pedagogic tools include 'memory training' to boost cognitive function, aerobic fitness, reduced anxiety and regular sleep.



Watching Vesuvius: A History of Science and Culture in Early Modern Italy

Sean Cocco UNIV. CHICAGO PRESS 336 pp. \$45 (2012)

Historian Sean Cocco looks anew at Vesuvius to reveal how early responses to it shaped modern volcanology. Now monitored closely — as befits a looming risk to at least a million people — in Renaissance and Baroque Naples the volcano was just becoming a focal point for scientific appreciation. Cocco argues that a combination of the city's cultural traditions and the chain of eruptions that kicked off in 1631 helped to avert the early modern scientific eye from sky-gazing to the earthly wonders of geology.



Walking Sideways: The Remarkable World of Crabs

Judith S. Weis COMSTOCK PUBLISHING ASSOCIATES 256 pp. \$29.95 (2012)

Stalked eyes, formidable claws, sidling gait: crabs are found around the globe and in environments ranging from deep-sea vents to bromeliad plants growing in trees. Biologist Judith Weis explores this crustacean cosmos with verve, touching on evolution, species, habitats, anatomy and functions, behaviour, ecology and fisheries. From the spotted orange Japanese spider crab (whose leg span can measure more than 3.5 metres) to the shell-swapping hermit crabs of Belize, this is a gripping overview of a remarkable family.