

dropped and elected officials prayed for rain. But even when the rains come, the problem is not fixed; and drought is sure to recur.

Fishman enjoys naming and shaming the villains. But he takes greater joy in celebrating the heroes: the laundries in Las Vegas, Nevada, and the citizens of Australia's Gold Coast who now recycle urban water. Fishman explores at length the paradox that whereas companies such as Coca-Cola — headquartered in Atlanta — and Campbell Soup, of Camden, New Jersey, have set themselves elaborate water strategies and water-saving measures, most cities, including Atlanta, have not.

He both praises and damns the private sector. The market can drive efficiency savings, he says, but it also creates solutions for problems that don't exist by, for example, "foisting bottled water on a too-gullible world", and fails to fix the real problems. He sees little future for a trade in water, because water cannot be transported easily over long distances. It's costly, politically and practically. Yet 'virtual' water — used in the production of coffee, T-shirts, cars and everything else we make — is traded with little heed for its economic or ecological value.

Technological advancement is and will be important, and Fishman covers it nicely. Given that the agricultural sector uses more than 70% of the global water supplies, surely everyone would be cheered by the idea of a high-yielding new crop variety that can mature using only 40% of the water? But if those crops are genetically engineered, more than one continent will recoil. Farmers who get water free or for little cost have no incentive to reduce their usage with water-saving devices. Nor are many of the new technologies taken up, even though someone invents a water purifier nearly every week that 'for only pennies per day will provide a family with clean drinking water'. The dispiriting truth is that few are bought.

The Big Thirst is a delight to read — full of salient and fascinating examples, well-researched and laced with wry humour. It would be wonderful if Fishman's rant against bottled water converted every reader. It would be even better if it promoted a serious reflection on how little we value that on which our life depends. ■

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A blogger (left) for an Internet radio station in Egypt that fights intolerance towards divorced women.

TECHNOLOGY

Together, bit by bit

A historian's insights into digital culture fascinate
George Rousseau.

Respected intellectual historian Milad Doueihi describes himself as an "accidental digitician" — by his own admission more a user of information technology than a creator of it. Such people, he argues in *Digital Cultures*, are forging a new global culture. The impact of computers on our minds, bodies and societies is already far-reaching. Whether we like it or not, digital culture is permanently entrenched.

Doueihi, an expert on literacy, points out that the voices of historians have largely been missing from discussions of the Internet. By showing how modes of communication and human relationships have changed since its rise, he makes a persuasive case that digital culture has broken free from print culture, which extends from the Gutenberg Bible of the 1450s to the present. Instant response, brevity, minimal spelling and grammar, novel syntax and different modes of composition have created new forms of literacy.

As a consequence, the way we view our identity, citizenship and political selfhood has changed. Doueihi sees blogging as "one of the greatest success stories". With the rise of online forums, everyone can communicate freely without publishers' intervention. As a result, we are more dedicated to the Internet than to any other civic cause, or even to our everyday work. As well as rich and poor, there is now another great social divide: between those with and without access to these web conversations.

In our online interactions, a new civility has emerged, along with the uncivilized behaviour — 'trollism' — that results from online anonymity. Urban dwellers blog more than those outside cities, and have created parallel cities in the blogosphere. And podcasts have reinvigorated the voice.

Doueihi's argument for a culture shift rests on three components of the online world. One is its creation of an anthology. The digital culture, rather than creating long, sustained narratives, assembles fragments of material — but not into logical wholes. We invest everything in e-mail responses rather than saving up our thoughts for long letters or books. All these snippets can then be assembled by different readers in different ways.

Doueihi also briefly cites religion as a central aspect of any new culture, although he never explains what he means by the word 'religion'. He passes quickly on to the third component — group identity, arguing that we seem to have a greater craving for belonging than previous generations.

Digital group identity, says Doueihi, differs from previous print-based concepts in several



Digital Cultures
MILAD DOUEIHI
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ways: speed of communication, multiple numbers of readers instantly reached, and the assumption that everyone who receives your digital message is interested in what you say. But it has a downside. Someone who paid two shillings for a book in the eighteenth century worked a week to buy that book and wanted to own it. With so much to choose from, readers of blogs may never find an account of such value to them.

The new types of 'group belonging' arising on the Internet, through which people achieve personal popularity and find safety, are creating a new emotional comfort zone. This begs for a broader discussion of emotional, moral and other types of literacy, which Doueihhi does not address. I also craved more knowledge about the interior world, especially the affective and emotional resonances of web users, many of whom are young.

Doueihhi has sensitive antennae for the legal ramifications of the new digital culture, as his debates on intellectual property rights, security and related issues show; and he may be right that at the root of these controversies is the annihilation of the old conception of what it is to be an author. In the print culture, the author controls the material that is read; in the new culture the reader is empowered to contribute, as in the shared editing of Wikipedia.

Many historians will counter that aspects of print culture — such as sustained narrative and religions organized by ethnic and national identity — are not defunct. We may spend our time in global digital cities, but our passports are not yet shredded. Doueihhi might reply that this is a matter of degree: some civic forms have changed more rapidly than others. Our expectation of what a book is remains the same.

Although Doueihhi bypasses the scientific community as a specific case, the new digital literacy must have altered what it means to be a scientist, especially in terms of identity and group belonging. Celebrity culture among scientists has undeniably become more frenzied in recent decades. Yet the effect of the Internet on the process of doing science is more elusive. With thousands of electronic messages traversing a typical laboratory each day, it will be increasingly difficult for sociologists to disentangle how networks of people manufacture scientific facts, in comparison with earlier accounts such as Bruno Latour and Steve Woolgar's *Laboratory Life* (1979).

Written in the 'old' discursive format, *Digital Cultures* includes much to think about. The pace of change is fast, but Doueihhi's insight is fresh. ■

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Books in brief



Born in Africa: The Quest for the Origins of Human Life

Martin Meredith SIMON & SCHUSTER 432 pp. £16.99 (2011)

More than a century after Charles Darwin suggested that the ancestors of modern humans might lie buried in the African plains, we are still piecing together the jigsaw of our evolutionary past. Journalist and historian Martin Meredith tells the story of the palaeontologists who sought the bones of early hominids there, from the discovery of skeletons in Tanzania's Olduvai gorge in the early twentieth century to the latest genetic research on the branches of the human family tree.



Rising Force: The Magic of Magnetic Levitation

James D. Livingston HARVARD UNIV. PRESS 288 pp.

£20.95 (2011)

Giving a new meaning to literary suspense, physicist Lames Livingston devotes his book to the science of magnetic levitation. From laboratory demonstrations of floating magnets, flying frogs and suspended sumo wrestlers to the realities of urban maglev trains, he uncovers humanity's fascination with the magic of defying gravity, as well as the physics of magnetic fields and superconductivity.



Divine Machines: Leibniz and the Sciences of Life

Justin E. H. Smith PRINCETON UNIV. PRESS 392 pp.

\$45/£30.95 (2011)

Seventeenth-century philosopher G. W. Leibniz is best known for his mathematical discoveries, including calculus. But he also investigated the science of life. Philosopher Justin Smith describes how Leibniz's experimentation in medicine, physiology, taxonomy and palaeontology influenced his philosophical ideas, causing him to shy away from mechanical views of nature towards more organic ones.



Sex, Drugs, and Sea Slime: The Oceans' Oddest Creatures and Why They Matter

Ellen J. Prager UNIV. OF CHICAGO PRESS 216 pp.

\$26/£17 (2011)

Beneath the waves, anything goes, explains marine scientist Ellen Prager in her tour of some of the saltier habits of sea life. From the inside-out posture and bioluminescent fireworks of the vampire squid to the mucus deluge that protects the slimy hagfish, she explains how marine critters adopt unusual approaches to sex, predation and defence. And she explores how these diverse creatures, from krill to the grey whale, are crucial for our food supply, economies and even drug discovery.



Cascadia's Fault: The Earthquake and Tsunami That Could Devastate North America

Jerry Thompson and Simon Winchester COUNTERPOINT PRESS

352 pp. £16.06/£26 (2011)

Following the recent devastation in Japan, journalist Jerry Thompson points out with unfortunate timeliness that North America is also at risk from a cataclysmic earthquake and tsunami. The Cascadia subduction zone stretches 800 kilometres from Vancouver Island to northern California, where the ocean floor slips below the continent. He follows the researchers who monitor the area, and asks what would happen if a magnitude-9 quake and 30-metre waves hit Vancouver and Seattle, Washington.