

climatologists Richard Alley, Wally Broecker, and George Denton to Greenland and the Arctic, along with Conkling, the chronicler of earlier Comer expeditions.

Cancer overtook Comer in 2006, ending a remarkable life that had embraced the beauty of the natural world and fostered a great passion for protecting and preserving it. *The Fate of Greenland* records his voyages of scientific exploration in the Arctic, through the words of Alley, Broecker, Denton and Conkling and Comer's own remarkable photographs.

The importance of Greenland in the global climate system, now and in the past, cannot be overstated. It influences polar meteorology, hosts seasonal sea ice on its periphery, and through ice discharge affects the thermohaline circulation of the adjacent Atlantic Ocean and the hydrological cycle around the world. The Greenland ice sheet, 3 kilometres thick in places and second only to the accumulation on Antarctica, has been an archive of climate change in the Arctic for more than 100,000 years. Much of what we know about events such as the Younger Dryas, the mid-Holocene Optimum, the Medieval Warm Period and the Little Ice Age derives from Greenland. And today, it is undergoing rapid changes.

For those actively engaged in climate science, there will be little new in this book. But its charm and value lies in the informal narratives these scientists provide into the ways that scientific enquiry proceeds: the posing of important questions, the formulation of many hypotheses, the quick rejection of most, and the structuring and execution of tests to evaluate the remaining few. Alley's work on the history of Arctic climate reconstructed from the deep ice cores, Broecker's discussion of the decades-long evolution of his thinking about thermohaline circulation, and Denton's descriptions of his on-the-ground experience in glaciated landscapes are stitched together by Conkling in an almost seamless narrative that preserves their individual voices.

The final chapters ask what lessons Greenland has taught us. The documentation of abrupt climate change gleaned from its ice offers a sober warning of the consequences of a rapidly warming Arctic, including the summertime loss of Arctic sea ice, the accelerating thawing of the permafrost surrounding the Arctic Ocean, and other issues such as methane release and global sea-level rise. The authors recognize that some mitigation of climate change remains possible, if the political will exists, but note that adaptation to the effects of climate change has already become a necessity — one that looms larger with every policy delay. ■

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G. H. H. HUEY/CORBIS

Eradicating some species to protect others, such as California's island fox, can stir controversy.

FICTION

Reconstituted Edens

T. C. Boyle's latest novel probes the convoluted impacts of species eradication programmes, finds **Emma Marris**.

Islands are like novels. They are self-contained worlds, populated by a manageable cast of characters. And most have narratives that hinge on a series of incidents, accidents, coincidences, births and deaths.

Species arrive by flying, rafting, swimming — and by luck or by accident. The order in which they show up determines much. Early colonists can claim ecological niches and put down roots. But in limited spaces, existence is tenuous. One bad year, and every member of a species may die. Thus, on small islands, as in novels, the death of a single individual can change the trajectory of the whole.

T. C. Boyle's new novel, *When the Killing's Done*, centres on an archipelago off the coast of California called the Channel Islands. The plot mirrors real campaigns there to remove introduced animals in a bid to protect native species.

In 2001, rats were poisoned on Anacapa Island by the National Park Service to

prevent the rodents from eating native birds' eggs. Pigs were eradicated from Santa Cruz Island a few years later to protect indigenous flora and deter golden eagles — lured to the island to gorge on pork — from enjoying a side dish of endangered island fox.

Not everyone was behind the push to restore the archipelago to its pre-human glory. In 2003, *The Washington Post* told of animal-rights activist Rob Puddicombe scattering "vitamin-fortified kibble" around Anacapa in a bid to help the rats there survive — vitamin K being a partial antidote to the rodenticide that was used. His act was in



When the Killing's Done

T. C. BOYLE
 Viking: 2011. 369 pp.
 \$26.95
 Bloomsbury: 2011,
 384pp. £18.99

vain. Today Anacapa is rat-free.

Puddicombe explained his actions to the reporter. “To me, the idea of species is just an abstract concept. Species go extinct all the time,” he said. “These animals are here and alive now. Their lives have value.”

Boyle uses the conundrum of killing individuals to save species as the central conflict of his novel. He counterpoises a fictionalized version of Puddicombe, David LaJoy, with a fictional National Park Service employee in charge of eradications, Alma Boyd Takesue. Add mother–daughter relationships, shipwreck, deaths and Boyle’s trademark detailed descriptions of characters deciding to have a drink, and you have the book.

The philosophical questions are not explored in the depth that some might hope for. The protagonists only briefly reflect on their opposing positions, and the reasons they came to their beliefs are not fleshed out. LaJoy and Takesue are presented as equally intransigent, equally misanthropic, equally angry and, for me, equally unlikeable.

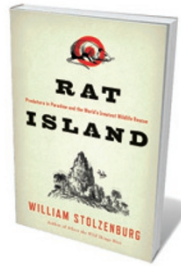
These two remain more or less ideologically static throughout the book, but plenty happens. There’s science, crime, pig-hunting, sheep-farming and accidents — lots of accidents. Boyle’s characters run afoul of the forces of nature nearly as often as they decide to crack open one more cold beer. “People fall from cliffs, people drown, people get drunk and do violence to one another, bones break, hearts give out, and it’s all in a day’s work for the Park Service,” muses Takasue as she watches tourists clomp all over Santa Cruz.

Some accidents bring people to the islands; others end in death, just as nature’s accidents and extinctions determine what species we consider “native” to particular islands. Near the novel’s end, Boyle brings a new species to Santa Cruz, raising intriguing hypothetical questions. If a new creature appeared on the island, would scientists assume that humans had imported it and summarily remove it? Or would they leave it alone? And does it matter how it got there? Is there any sense in which ecologists can not meddle with the islands they take care of?

The characters in *When the Killing’s Done* are in mourning for a simpler past. “How much better would it be if nobody ever came out here and the islands could exist in the way they always had. Or should have,” thinks Takasue. But, as always, we showed up. Island biogeography may be a matter of accident, but humanity is the inevitable mishap. ■

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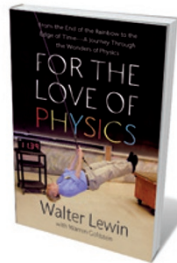
Books in brief



Rat Island: Predators in Paradise and the World’s Greatest Wildlife Rescue

William Stolzenburg BLOOMSBURY 288 pp. \$26 (2011)

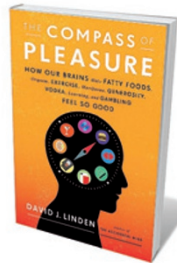
Sometimes you have to be cruel to be kind. So say conservationists who eradicate invasive species in order to protect more established ones. Focusing on one island in the Bering Sea where nesting birds are being savaged by marauding rats, journalist William Stolzenburg explains why ecologists have become poisoners to reduce the rodent population. He highlights the fine line between wildlife protection and poaching.



For the Love of Physics: From the End of the Rainbow to the Edge Of Time — A Journey Through the Wonders of Physics

Walter Lewin with Warren Goldstein SIMON & SCHUSTER 320 pp. \$26 (2011)

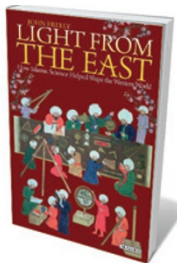
Having topped the online video charts with his daredevil YouTube lectures, physicist Walter Lewin has become a celebrity teacher. In this book, he brings his trademark hands-on approach to explaining the wonder of physics. By asking simple questions that we can all identify with, such as why we are shorter standing than lying down, he explains complicated subjects such as gravity.



The Compass of Pleasure: How Our Brains Make Fatty Foods, Orgasm, Exercise, Marijuana, Generosity, Vodka, Learning, and Gambling Feel So Good

David J. Linden VIKING 240 pp. \$26.95 (2011)

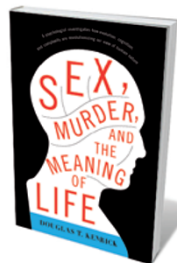
The pursuit of desire explains much of human history. Neuroscientist David Linden explains how aspects of our brain lead us to crave food, sex, drugs and rock’n’roll. He also notes the evolutionary reasons why we gain pleasure from virtues as well as vices. Knowledge of the biological basis of pleasure forces us to rethink the moral and legal ramifications of addictions, he says.



Light From the East: How the Science of Medieval Islam Helped to Shape the Western World

John Freely I. B. TAURIS 256 pp. \$28 (2011)

In his account of the rich history of idea-swapping among medieval civilizations, travel writer John Freely celebrates the golden age of Arabic science. By describing the astrologers, physicians, philosophers, mathematicians and alchemists of the Muslim world, he reveals how knowledge spread from Central Asia and the Middle East to Spain and Europe, where it influenced Western thinkers.



Sex, Murder, and the Meaning of Life: A Psychologist Investigates How Evolution, Cognition, and Complexity are Revolutionizing Our View of Human Nature

Douglas Kenrick BASIC BOOKS 256 pp. \$26.99 (2011)

With heads full of sexual — and sometimes homicidal — fantasies, we humans still carry much evolutionary baggage from our wild ancestors. In his idiosyncratic account, social psychologist Douglas Kenrick shows how these roots are more beneficial than troubling. Apparently, irrational and selfish behaviours — such as one-night stands, prejudices and greed — are ultimately rational, he says, and presage positive urges such as love and generosity.