Carbon dioxide concentrations must drop if natural disasters caused by climate change are to be prevented.

times, human civilisation has been no more than a strange luminescence growing more intense by the hours, of which no one can say when it will begin to wane and when it will fade away", Sebald ponders. "For the time being, our cities still shine through the night, and the fires still spread." These words prompt Roston to declare that "we as individuals and as a society, as nations and as species are deciding that our lifestyle is more important than its continuity".

Vivid and important passages pertaining to colourful or pioneering individuals, notably the astronomer Fred Hoyle, are well presented. In retrospect, it is clear that Hoyle should have shared the Nobel prize in physics with William A. Fowler for his contribution to the synthesis of elemental carbon from the fusion of three helium nuclei. As well as Faraday, Roston highlights lesser known, loner scientists, such as Guy S. Callender, who realized in 1938 what was later confirmed by and credited to Charles Keeling in 1955 — that man-made CO_2 contributes to global warming. Although Roston mentions the important work on greenhouse gases by Svante Arrhenius in 1896 and John Tyndall in 1860, he does not discuss Joseph Fourier's pioneering studies in 1827.

Roston states the oft-repeated but erroneous claim that the 1985 study of carbon-60, or buckminsterfullerene, became "a founding moment for the nanotechnology movement". Not so. The contributions of Richard Feynman in 1958, Norio Taniguchi in 1974, Eric Drexler in the 1980s, and the coming of cluster science and new microscopic techniques all lay greater and prior claim. In the petrochemical industry, for example, supported nanocatalysts consisting of just a few atoms of platinum were used industrially 15 years before the carbon-60 frenzy. Even the advocacy of nanotechnology by former US president Bill Clinton takes higher priority, in influence, than buckminsterfullerene in the pervasive talk of the nanoworld.

The Carbon Age contains some minor infelicities, yet its many fine attributes win out: it is teeming with unexpected information and is a grand tour of the Universe. ■

John Meurig Thomas is professor of solid-state chemistry at the Department of Materials Science and Metallurgy, University of Cambridge, Cambridge CB2 3QZ, UK. He is author of *Principles and Practice of Heterogeneous Catalysis*.
e-mail: jmt2@cam.ac.uk

deems that the main downsides of climate change lie "a century or more in the future", whereas the authors of a chapter on the threat from cosmic rays persist with the discredited idea that "current global warming may be driven by enhanced solar activity". Neither statement stands up to scientific scrutiny.

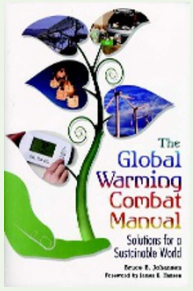
If we are to evaluate future global threats sensibly, we must distinguish between real and projected risks. We should consider separately events that are happening now, such as anthropogenic climate change and the imminent peak in the oil supply, other events that we know with certainty will occur in the longer term, notably asteroid and comet impacts and volcanic super-eruptions, and extrapolated risks, such as those associated with developments in artificial intelligence and nanotechnology, which are largely imagined.

Any ranking exercise of global threats must put contemporary climate change and peak oil firmly in the first two places. Yet the latter is not even mentioned in *Global Catastrophic Risks*. Crystal-ball gazing and horizon scanning are warranted to avoid unexpected future shocks, but these efforts should not come at the expense of ignoring the severe threats that are already staring us in the face. Closing our eyes to dangerous climate change and fast-dwindling fossil fuels will bring about a failing society that is not equipped to address any other major threats, natural or anthropogenic. To return to Bostrom and Ćirković's analogy: a mushroom cloud may hang over the distant horizon and nano-goo may be oozing in our direction, but we still need to douse the flames wrought by climate change and peak oil if we are to retain for ourselves a base from which to tackle such menaces, when and if required. ■

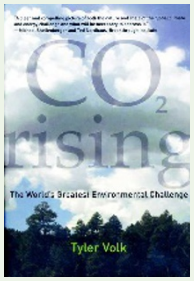
Bill McGuire is director of the Benfield UCL Hazard Research Centre, University College London, Gower Street, London WC1E 6BT, UK. He is author of *Seven Years to Save the Planet*.
e-mail: w.mcguire@ucl.ac.uk

CRISIS READING

Books on natural cataclysm, often climate-induced, are in vogue. Two books, Bruce Johansen's *The Global Warming Combat Manual* (Praeger, 2008) and Bill McGuire's *Seven Years to Save the Planet* (Weidenfeld & Nicolson, 2008), seek to make readers more environmentally aware.



McGuire explains how our homes can be made more energy efficient and our holidays greener. He recommends draconian measures to reduce China's greenhouse-gas emissions, and highlights the battle over crops for biofuels and for food production. *The Global Warming Combat Manual* discusses climate-driven changes in US environmental policy and practice. By describing recent switches — the increasing use of wind power in Texas, for example — and emerging technologies and trends, Johansen lays out a range of solutions for minimizing climate change.



CO_2 Rising by Tyler Volk (MIT Press, 2008) explains the carbon cycle in detail. Volk describes how evidence of past changes in carbon dioxide levels is obtained and interpreted, before discussing recent increases brought about by our use of fossil fuels.

Edited by Kurt Campbell, *Climatic Cataclysm* (Brookings Institution Press, 2008) looks beyond the findings of the Intergovernmental Panel on Climate Change (IPCC) to the consequences of expected, severe or even catastrophic climate change, and to what national and international organizations can do now to prevent future threats.

Dire Predictions by Michael Mann and Lee Kump (Dorling Kindersley, 2008) is an illustrated guide to the IPCC reports. Running through the scientific evidence, conclusions and key figures behind these influential reports, the book explains the latest thinking on climate science to a general reader.

Jenny Meyer