

BOOKS & ARTS

Tales from the climate-change crossroads

Four books by prominent global-warming pundits illustrate that exhortation and authority are not enough to solve the climate crisis — it is time for some humility, concludes **Roger Pielke Jr.**

The public debate about climate change has been transformed in recent months. Last autumn, many were optimistic about the December climate conference in Copenhagen. Climate science was seen as the ultimate authority in a discussion framed as nailing down details on a global agreement to support emissions reduction. Today, few observers view the Copenhagen conference as a step forward. Climate scientists are also under fire for uncaught errors and sloppiness in the latest report of the Intergovernmental Panel on Climate Change (IPCC), and for questionable behaviour revealed in e-mail disclosures.

In the weeks before Copenhagen, climate pundits rushed to publish their visions of how the negotiations would and should play out. How did their arguments fare? Al Gore's rose-tinted vision failed to square with Copenhagen's outcome, leaving us with little guidance going forward. Two first-hand accounts by distinguished climate scientists who advocate action, James Hansen and Stephen Schneider, left me feeling that their convictions have pushed them towards simplistic, almost authoritarian visions of political decision-making. However, the technical deliberations of less well-known names, in a volume edited by Dieter Helm and Cameron Hepburn, remain compelling.

In *Our Choice*, Gore speculates on how a future generation might look back at our decisions. Writing before Copenhagen, he hedges his bets on the agreement that he believed would be delivered, calling it historic but insufficient. He hoped that the meeting would be viewed as the start of a global shift in attitudes, bolstered by US legislation that was passed on the eve of the conference. Clearly, Gore's assessment was far from the diplomatic meltdown that occurred. Observers are still trying to make sense of what happened and what should come next.

Missing from Gore's account, despite its subtitle, is any "plan to solve the climate crisis". He provides a colourful overview of low-carbon technologies — wind, solar, nuclear — and discusses aspects of the Earth system, such as forests and population, that are related to the climate problem. He does not quantify how those technologies and practices might come together to decarbonize the global economy, through what policy mechanisms and on what timescale. It is jarring to learn that Gore thinks that the solution to the climate crisis will come about only through "massive changes in

human behavior and thinking". Again, he does not say how a new global consciousness is to be delivered. Instead, he revisits the themes of his previous book *An Inconvenient Truth* (Bloomsbury, 2006), complete with attacks on the policies of former US president George W. Bush and nefarious climate deniers.

Hansen and Schneider each provide a troubling inside view of the political battle over climate change in their respective books, *Storms*

Our Choice: A Plan to Solve the Climate Crisis

by Al Gore

Rodale Books: 2009. 416 pp. \$26.99

Storms of My Grandchildren: The Truth About the Coming Climate Catastrophe and Our Last Chance to Save Humanity

by James Hansen

Bloomsbury USA: 2009. 320 pp. \$25, £18.99

Science as a Contact Sport: Inside the Battle to Save Earth's Climate

by Stephen H. Schneider

National Geographic Society: 2009. 304 pp. \$28

The Economics and Politics of Climate Change

Edited by Dieter Helm and Cameron Hepburn

Oxford University Press: 2009. 400 pp. \$55

of My Grandchildren and *Science as a Contact Sport*. Hansen invokes religious terms, characterizing himself and Schneider as witness and preacher, respectively. Both are evangelists who hold science as an ascendant authority.

The tension between the role of scientists as political advocates and as expert advisers is an undercurrent in both books. Schneider explains that "as scientists, we never recommend which policies should be chosen"; Hansen similarly sees himself as an "objective scientist". Yet both books largely comprise strong ideological and political commentary based on an unstated assumption that science compels action on climate change. Neither author accepts the label of advocate, claiming to be speaking for science; nor do they see the paradox in their position.

Both scientists express a desire to influence political outcomes. Hansen describes how he hoped to sway the US presidential election in

2004 through his public endorsement of Senator John Kerry over George W. Bush in a speech made in the swing state of Iowa. Schneider relates how, at an IPCC meeting, he may have aided the viability of the Kyoto Protocol after explaining climate science to an African national delegate who later changed his position.

Policy pressure

Schneider's recounting of the IPCC process reveals how few people are able to influence its reports. He recalls holding "private negotiations" over a bottle of wine with a co-chair to settle how to present sea-level rise in his working group's report. His comment that IPCC chairman Rajendra Pachauri was keen to stress "the importance of the Working Group II report in identifying linkages between climate change and sustainable development around the world" raises questions as to whether similar pressures might have affected quality control in that report — particularly on such topics as the Himalayan glaciers or the economic costs of natural disasters and African agriculture, for which the IPCC has recently been criticized.

Schneider and Hansen relate how they have had considerable access to government decision-makers around the world, with whom they have shared their policy recommendations. Given such opportunities, it is difficult to understand Hansen's frustration that the governments of the United Kingdom, Germany and Japan failed to alter their climate policies in response to letters that he wrote to their leaders and meetings he attended with cabinet ministers.

Hansen's complaint that leaders of sovereign countries have not acceded to his demands implies a criticism of democracy, also present in Schneider's book. If science leads inexorably to particular political outcomes, then it would seem to favour autocratic forms of governance. The middle man — the general public — is easily ignored if heads of state need only hear the expert voice of science. Schneider worries that democracy finds it hard to deal with complex issues: if only the public understood the real risks, he explains, they would be "much more likely to send strong signals to their representatives". He bemoans a public debate that includes the participation of "special interests" and that is filtered through an inept media, a perspective echoed by Hansen.

In *The Economics and Politics of Climate*



A solar-power plant in Wuhan is part of China's plans to produce 10 billion watts of solar energy by 2020.

CHINA DAILY/REUTERS/CORBIS

Change, Helm, an economist at the University of Oxford, UK, agrees that the policy outlook for stabilizing atmospheric concentrations of carbon dioxide and other greenhouse gases is “very grim” owing to the myriad complexities and contradictions of policies for reducing emissions globally. He argues that far more than political will is required to make progress on this issue, the magnitude of which has been underestimated. A “fundamental rethink” is needed, he says, with a greater focus on international and long-term technological solutions.

Other authors who contribute to this impressive volume highlight the challenges of securing a global agreement. Economic growth, suggest Australian economist Ross Garnaut and his colleagues, has entered not just a golden but a “platinum age” that, beyond the current recession, is likely to continue for decades. If so, then the IPCC assessments have underestimated the challenge of emissions reduction, its costs and the mitigation potential of existing technologies. Chapters on India and China reinforce this perspective.

Helm and his co-editor Hepburn, also an economist at the University of Oxford, admit that their book “is not intended to provide simple answers”. It presents a range of options that might each contribute to decarbonization of the global economy. These include cap-and-trade regimes, carbon taxes, behavioural change, nuclear energy, carbon capture and storage, renewable-energy technologies, sequestration in forests, improving energy efficiency and geoengineering. Each method has its merits, flaws and opposition. The bottom line is that although we have plenty of options

with which to embark on the challenge of responding to climate change, we are nowhere close to a complete solution.

Together, these four books highlight that climate policy is at a crossroads. The journey so far has emphasized science and exhortation: that facts, spoken loudly enough, are enough to win the argument. That path has succeeded in bringing climate change to the attention of

policy-makers and the public as an important global problem. At the same time, that approach has shown its limitations. Climate science has become deeply politicized and climate politics is in gridlock. Climate change is at risk of becoming an issue of cultural politics, similar to the evolution debate in the United States and elsewhere. If the climate-policy debate is to continue as it has, we should expect more of the same.

An alternative way forward would start by admitting the limitations of science in compelling political agreements, and by admitting that we do not know how to complete the challenge of decarbonizing the global economy. There may be greater prospects for political consensus if scientists acknowledge their humility rather than asserting their authority. Incremental approaches to climate mitigation that can be modified by experience offer a chance that realistic and democratically grounded actions might rise to a challenge that will be with us for decades to come.

Each of these contrasting books offers a valuable perspective on how we got to where we are, but each gives only limited insight as to where climate policy may be going. The future, as Gore says, remains our choice. ■

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A misguided attack on evolution

What Darwin Got Wrong

by Jerry A. Fodor and Massimo Piattelli-Palmarini

Farrar, Strauss & Giroux/Profile: 2010.
288 pp/258 pp. \$26/£20

On the heels of last year's anniversary celebrations of Charles Darwin's *On the Origin of Species* and C. P. Snow's 'Two Cultures' essay, an interdisciplinary view of evolutionary theory by philosopher Jerry Fodor and cognitive scientist Massimo Piattelli-Palmarini might be anticipated with interest. Unfortunately, *What Darwin Got Wrong* fails to bridge these two cultures.

By misusing philosophical distinctions and misinterpreting the literature on natural selection, Fodor and Piattelli-Palmarini make a mess of what could have been an important contribution. The authors are correct in two of their assessments. Namely that: mainstream

evolutionary biology has become complacent with the nearly 70-year-old Modern Synthesis, which reconciled the original theory of natural selection with Mendelian and population genetics; and that the field needs to extend the conceptual arsenal of evolutionary theory. But in claiming that there are fundamental flaws in an edifice that has withstood a century and a half of critical examination, Fodor and Piattelli-Palmarini err horribly.

The authors' argument against “Darwinism” boils down to a two-pronged attack. First, they claim that biologists' emphasis on ecological, or exogenous, factors is misplaced because endogenous genetic and developmental constraints play a crucial part in generating organic forms. Second, they argue that natural selection cannot be an evolutionary mechanism because evolution is a historical process, and history is “just one damned thing after another” with no overarching logic.

The first claim represents a distortion of the