

Global Warming. Historical Guides to Controversial Issues in America

By Brian C. Black and Gary J. Weisel. 2010. Greenwood, An Imprint of ABC-CLIO, 130 Cremona Drive, Santa Barbara, California 93117 USA. xv + 188 pages. 37.95 USD.

Global warming is one of those subjects almost everyone thinks they know about, but it is a topic around which there is often profound misunderstanding and confusion. Yet it is also, ironically, a matter on which people frequently hold and express strong opinions. This volume, one of twenty in the Historical Guides series, aims to put this topic into its historical context where that also requires an understanding not just of recent human history, but also of geological events on a much longer time scale. As such, it provides the background material for more informed and worthwhile discussions. Indeed, the authors “hope to leave the reader more able to engage in this crucial debate as a responsible member of a democratic society” (page xiii). The book goes well beyond a simple summary of the science arguments, however, by pre-

senting a historical survey of the debates, showing how the topic of global warming has become such an incendiary issue. Both authors are based at Altoona College, Penn State University, where Brian Black is Professor of History and Environmental Studies and Gary Weisel is Professor of Physics. Black in particular has good credentials for tackling this topic; he has written several other books focusing on the history of energy and petroleum use.

They start, sensibly, with a definition of terms, distinguishing between climate change, global warming, and anthropogenic global warming. Climate change has a broad scope, referring to “the myriad of variations that the Earth has undergone” (page xii). They distinguish two different meanings for the term global warming: “recent trends in average global temperature”, on

which the scientific consensus is that they “have trended upward”, and “the hypothesis that human activity has caused the rising temperature trends of the last three decades” (page xii). The latter sense is often summarized by the term “anthropogenic global warming” or AGW. And it is this term that generates most controversy. Although Black and Weisel attribute this time scope to the “climate science community”, I found the temporal scale quite restrictive; by this view, AGW only refers to the temperature trends since 1980. When I checked other literature, I found the term used in various ways, albeit vaguely with reference to “the last few decades”. I have generally considered the anthropogenic signal to have more time depth, extending to the Industrial Revolution but becoming sharper in recent decades. In this sense, I align more with Steffen *et al.* (2011), who define the Anthropocene (the interval of marked human impact on the environment, including climate) as starting around 1800 AD, with the Great Acceleration starting about 1945 AD. Later Black and Weisel do ask the question “are we living in the Anthropocene?” (page 25). By implication, the answer is “yes”, but they do not state that explicitly. Nevertheless, I did welcome their unequivocal characterization of AGW so that the context for their later discussion was clear.

The remaining account is organized in six chapters, arranged in roughly chronologic order and increasingly sharper focus. The first two chapters give the earth science background. Beginning with “What We Know: A Brief History of the Earth and Its Climate” and continuing with “How We Know: A Brief History of Global Warming Research”, the authors provide an overview of climate change evidence and research, tracing the history of ideas and investigative directions, supported by a useful set of references that provide an entry point into the large and disparate literature in these fields. This will be largely familiar ground to anyone who has worked in ecology, natural history, or earth science. The closing section of the second chapter nicely sets up the discussion in the next, which the authors present in the form of a question: “If the hypothesis of anthropogenic global warming is correct, then how did human beings get themselves in a position where they risked changing the Earth’s very climate?” (page 56).

The third chapter (“How Did We Get Here?”) traces the history of the use of fossil fuels as an energy source. After a short acknowledgement of prehistory, their account begins with Domesday and the Medieval Era, when they identify the roots of industrialism and the application of energy in the form of power to drive machinery, initially as water and wind power, leading to urbanization and manufacturing on a wider scale. However, they trace the major impacts of technological change from the Industrial Revolution, beginning in 1750. From here, they consider that “over the next two centuries, human life changed more than it had in its previous 7,000 years” driven by “machines and an entrepreneurial society committed to applying new technology to everyday life, each one relying on new,

flexible, and expandable sources of energy” (page 62). Their view of recent history and energy use is strongly coloured by this mechanistic profit-driven perspective. Interestingly, they do not highlight recent suggestions of considerably more time-depth for an anthropogenic signal in the climate record. The most accessible account of some of these ideas is provided by Ruddiman (2005) in a provocative but compelling work in which he posits that such a signal can be detected and correlated with land-clearance and the transition to agriculture around 5,000 years ago, the effects of this being overprinted and exacerbated by recent fossil-fuel use. From this perspective, recent environmental impacts are different in effect but not essentially different in character from those throughout human history. Perhaps most tellingly, Black and Weisel note the spatial dissociation between energy generation and energy use, beginning in the late 19th century with the development of the power grid to carry electricity from coal-fired power plants to places where it could be used, largely, as they point out, for apparently benign applications that made lives better for many people. What this suggests is that the negative impacts of energy generation are not seen or appreciated by the majority of energy consumers. I was left wondering how far this decoupling influences the dissention about AGW.

In the remaining three chapters (“Domestic Politics and Ethics Regarding the Environment”, “The International Response”, and “Present and Future Policy Options”), the authors provide an articulate and clear summary of the AGW debate, beginning with the US perspective and then broadening to consider the international, largely European, viewpoint. As an outside observer, I have always been mystified as to why there is such opposition and hostility in the US towards recognition of an anthropogenic signal in climate change. I found the fourth chapter therefore particularly illuminating. So-called AGW sceptics, often organized around various conservative think tanks, have had, Black and Weisel suggest an “overriding ideological concern...to resist government regulation, which they believed would hurt the U.S. economy” (page 51). Black and Weisel note that “climate change seems to access nerves that are already inflamed by existing cultural and political disagreements” (page 82) and they identify an “apocalyptic” tenor in much of the recent debate. Anyone who has followed the debate in the news media would concur with that statement!

Black and Weisel situate the climate change debate within the envelope of modern environmentalism. As an idea, environmentalism sprang from a growing awareness of nature and landscape and “changing ideas of the human relationship with nature” that can be “traced back to 19th century ideas of romanticism and transcendentalism” (page 82). This was an essentially passive appreciation for nature combined with a strong urge towards protectionism. In the 20th century, environmentalists have a much more activist approach and are drawn not as much from the wealthy elite and up-

per class. Black and Weisel also trace the development of NGOs in the US and their interaction with various government agencies (especially the EPA) in recent decades. They note some interesting feedback effects: “the climate change debate has led to significant changes in modern environmentalism, including two extremely different developments: first, the broadening of scientific understanding and interest in environmentalism, and second, the demonizing of environmental perspectives as antidevelopment and unpatriotic” (page 82). It is the latter which perhaps drives most of the more strident and vitriolic commentary in the mass media. The discussion has moved beyond pragmatic arguments and into the sphere of moral and the ethical arguments, with unbridled consumption and expansion seen as immoral and unsustainable by some, whereas any effort to restrain or restrict growth of the US economy is seen as immoral by others. Despite seemingly irreconcilable and intractable viewpoints, Black and Weisel do see some prospects for rapprochement, perhaps through a new ethic of stewardship. Whether this has a lasting impact on US domestic policy remains to be seen.

The international experience forms an illuminating contrast to this fractious squabbling, seemingly being less polarized and less strident. The impact of climate-related problems identified in the 1970s onward, such as acid rain and ozone depletion, are not constrained by borders. Clearly, countries outside the US, especially heavily industrialized countries in Europe and rapidly industrializing countries, such as China, Brazil, and India, have vested interests in these debates as well. As do countries, such as small island states and many densely populated Third World nations, which are likely to bear the brunt of any immediate impacts of AGW. Black and Weisel’s analysis of the international dimension is limited. They concentrate mainly on summarizing attempts during several Earth Summits, especially Rio in 1992 and Kyoto in 1997, to develop consensus on actions to mitigate the perceived effects of climate change, especially carbon dioxide emissions. They also discuss the establishment of the IPCC (Intergovernmental Panel on Climate Change) in 1988 and its subsequent activities, focusing particularly on the Fourth Report, issued in 2007. Perhaps counter intuitively, Black and Weisel note that the Reagan administration supported the establishment of the IPCC, feeling that, as a committee, it “would hopefully flatten out the more extreme opinions of some of the scientists” (page 115). The consensus opinions expressed by the IPCC, however, have become more sharply defined and less muted with time, as the scientific research has continued, data have accumulated, and outside criticisms and review have led to more scrutiny and verification, including the rigorous avoidance of overstatement. This caution has led to the development of various scenarios for future effects, depending on varying assumptions about societal response and economic activity, combined with climate projections. Even the most con-

servative of these, however, suggests some significant impacts in different areas of the world.

Whatever the magnitude of the role that anthropogenic activity plays, climate trends suggest continued global warming (page 131). This leads into a consideration of what societal response should be, a subject examined in the final chapter and epilogue (“Present and Future Policy Options” and “Integrating Global Warming Into Federal Action”), where the viewpoint switches back to the US. The IPCC report offers some options for various mitigation actions as well as suggestions for adaptation. The bigger question is whether there is the social and political will to adopt any of the strategies or actions. On this, Black and Weisel point on the difficulties of establishing international agreements, as well as the challenges faced by entities that wish to reduce their “carbon footprint”. Again, their analysis focuses on energy use. This portion of the book makes for fascinating reading, as Black and Weisel recount how the US public in general, impatient at the lack of action at the federal level, have adopted mitigation and adaptation activities at state, regional, and local levels, such as committing to targets for greenhouse gas reduction. Public opinion is trumping political inertia, with “bottom up” grassroots actions initiating change. Some commentators have also pointed out that “greening” the economy provides new business opportunities for far-sighted entrepreneurs. Black and Weisel’s survey therefore ends on a note of cautious optimism, while acknowledging future uncertainties.

Overall, I recommend this book as a clear straightforward read and a good explication of a complex subject. I especially valued Black and Weisel’s lucid discussion of the historical background and recent public debates, which I thought was even-handed and presented without hyperbole. Certainly, I came away from this book with a better understanding of the position of AGW sceptics, something I did not expect. I think that anyone interested in climate science or with a concern for our environment would benefit from reading this thoughtful and informative survey of the global warming debate. As someone involved, at least peripherally, in climate change research the take-home message for me is that scientists have to do a better job of explaining complex research to the public. Improved communication of scientific research may, one hopes, elevate the level of public debate, and that can only be a good thing and result in wiser decision-making.

References

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