

Review: Changing the Atmosphere: Expert Knowledge and Environmental Governance

By Clark Miller and Paul N. Edwards (Eds.)

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Clark Miller, & Paul N. Edwards (Eds.). *Changing the Atmosphere: Expert Knowledge and Environmental Governance*. Cambridge, MA: MIT Press, 2001. 375 pp. ISBN 0-262-13387-3 (cloth). US\$70.00

This edited collection of essays analyses the international politics of climate science and the institutional governance of global climate change. The editors claim that climate change is a "key site in the global transformation of world order," resulting in power and authority being redistributed amongst diverse actors by new regimes or ensembles of political and scientific institutions and networks (p. 3). Climate science is not an "independent input" to global governance but "a human institution deeply engaged in the practice of ordering social and political worlds" (p. 5). The book seems to have been compiled for graduate students in environmental politics, but it may also appeal to climate "technicians." Chapter 3, for example, is a defence of climate modeling that is probably impenetrable to all but tertiary-trained modellers or meteorologists.

The essays are grouped thematically. Chapters 2-4 analyze how controversial and culturally influenced scientific research understands and represents climate change, particularly through the use of computer modelling and satellite data to produce global projections. Chapters 5 and 6 examine the processes through which various stakeholders have understood, represented, and governed climate(s) over time. They include case studies of the rise and fall of weather modification (geoengineering), international meteorological cooperation and technical assistance, and the evolution of global networks of atmospheric observation stations. Chapters 7-10 include an examination of multilateral institutional responses to scientific claims and politicised critiques, the politics inherent in international expert advisory processes, and the normative issues that remain unresolved regarding the allocation of responsibilities for reducing greenhouse gas emissions. Chapter 10 explores the "construction" of our "global neighbourhood" through diverse images, especially from space and in the mass media, and through influential environmental texts of the 1960s and 1970s, then broadens into a brief examination of global representations of politics, trade, ethics, and social movements. Chapters 7-9 are probably the best chapters to read after the introduction because they provide an accessible overview of key issues and contemporary debates about climate change, providing a good lead into

the rest of the book.

The book is primarily concerned with analysing the "construction" of the contemporary science and public perceptions of a changing global atmosphere (drawing on constructivist/interpretive/reflectivist theory) rather than with critiquing how atmospheric change has come about or can be mitigated. Unlike other variations of constructivist theory, this book does not explore the power/knowledge dynamics or political economy of the human-induced global transformations that are having a discernible impact on climate change. Nor does it include much analysis of the social change that is needed to reduce or slow global warming. Even though there has been much debate about whether climate change is occurring and how that can be established in terms of atmospheric data (and these issues take up much of the book) the editors could have tried to include chapters that reflect better on, or deconstruct, historically significant stakeholders' contributions to the global problem and alternative visions. The opening paragraphs and closing chapters seem to focus on tangents. The introduction opens with a reference to the global impact of nuclear technology followed by an obscure reference to the release into the atmosphere of organic carbon. The final chapter examines environmental globalism too broadly. Expert knowledge about clean power generation, sustainable road transport, better urban design, and sustainable agriculture is insufficiently analyzed. Expert stakeholder networks outside of climate science networks warrant more attention despite some coverage in chapter 9.

The book could also have made an even more significant contribution than it does had it included an historical overview (or more ambitious genealogy) of the global political economies of energy, land use, transport systems, and the greenhouse gases produced by these activities. Its lack of deep causation analysis, and its intermittent references to changing conceptions of *nature* might be remedied in future editions. The book does include brief references to historical concerns about the ecological impact of fossil fuel consumption and deforestation, and early theories of climate change (e.g. chapter 2), and occasional emissions graphs (e.g. chapter 9), but there is no global assessment of the causes of rising atmospheric concentrations of greenhouse gases and remedial policies from an *alternative* world order perspective. The book is primarily concerned with relatively recent, contested, and culturally influenced scientific analyses of climate change and reactive politics. The book does not give readers much idea about how or why human activities have been able to produce so many greenhouse gas emissions in such a short time (relative to planetary time) and the alternatives that have been historically foreclosed.

This book is likely to appeal most to readers who have more than a lay

knowledge of climate science and who are not looking for long-term constructivist analyses or recommended strategies for global change.

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Dr. Hanna Jaireth formerly worked on clean fuels regulations for the Federal Department of the Environment and Heritage in Australia but this review reflects her personal views only.