

For those without institutional power, the neighbourhood is the main, and often the only, effective sphere of action. It is also closely bound up with identity. The threat of, at best, fragmentation and, at worst, destruction which is implied by the invasion of such neighbourhoods by more powerful outsiders is always likely to be vigorously resisted.

From Urban Village to East Village contributes to an understanding of similar processes of conflict and displacement in poor neighbourhoods throughout the world. But it is inherently an academic work. Some contributors do reveal where their sympathies lie, but the overall intention is to portray an objective and detached reality. Those looking for an impassioned account of the plight of the homeless and the dispossessed which argues the case for resistance and reform should look elsewhere.

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Ozone Politics

OZONE DISCOURSES: Science and Politics in Global Environmental Cooperation, by Karen T. Litfin, Columbia University Press, New York, 1994, \$18/£12.50 (pb), 257pp. ISBN 0-231-08137-5.

In *Ozone Discourses*, Karen Litfin provides a compelling theoretical argument to contradict the common perception that scientific consensus is the source of political consensus and international environmental agreement.

She demonstrates that the relationship between science and policy, between scientists and policymakers, is, in fact, multi-dimensional. Knowledge influences power, but power also influences knowledge. A country's material interests determine what knowledge it accepts — but what knowledge it accepts determines its interests.

Litfin seeks to understand the dynamic interaction of science and politics, of knowledge and power, in international environmental negotiations. Her argu-

ment taking place within international relations theory. "Realist" scholars in the debate view the outcomes of international interactions solely as the result of military and economic power and interests, with international cooperation inhibited by the anarchy-inducing dynamics of self-help.

"Institutionalist" scholars, meanwhile, agree with the realists that power and interests play important roles but they also view states as capable of developing cooperative institutions and rules — "regimes" — to mitigate the effects of anarchy and achieve better outcomes than they could by acting individually.

"Reflectivist" scholars who have recently joined the debate argue that norms, ideas and knowledge also influence international outcomes.

Litfin takes all three schools of thought to task for dichotomizing and separating these factors. She maintains that comprehending the dynamics of interaction between states requires examining how power, interests, institutions and knowledge are all "mutually interactive." Theories of unidirectional causality fail to capture a world of multi-dimensional interdependencies and causalities.

Litfin grounds and illustrates her theoretical argument with an exhaustive and excellently-documented analysis of the negotiations to regulate ozone-depleting substances. Even those who disagree with her interpretations will find this book an invaluable resource because of the phenomenal detail.

Using primary documents and interviews with the main negotiators, Litfin frames the empirical section of *Ozone Discourses* as a response to claims that:

"the ozone regime grew out of efforts by an epistemic community [of scientific experts] to forge a political consensus on the basis of science".

She problematizes this alleged relationship in which science is logically prior to, and outside of, politics, stressing that:

"The path is much more circuitous than one proceeding directly from knowledge to policy consensus".

Facing environmental uncertainty, politicians do turn to scientists for advice on the environmental impacts of current policies and available alternatives. But politicians also drive science. Scientists do not simply identify and provide impartial, objective "facts" about the world. They are not "above the fray of social and political conflict", providing some inherently more "rational" basis for policy. Information is framed and interpreted within pre-existing discourses.

"In policy controversies, information begets counter-information. Knowledge is embedded in structures of power". Because states perceive scientific discourse as a "universal legitimator," scientists become knowledge brokers. The way they define the "problem," establish their research agenda, assess the probability and cost of consequences, and determine the "viability" of alternatives, creates a discourse that shapes and constrains the choices policy makers and publics have.

But it is not scientists alone who dictate the discourse for a problem. Rather, supporters of a given policy cloak their positions with the mantle of science. What gets accepted as knowledge reflects the interests of the most powerful states. The process of selecting, ignoring, framing and interpreting scientific facts "delimits the boundaries of legitimate discourse", soon making these "facts" indistinguishable from political values. The discourses extant at any point in time reflect the interaction of the mindsets, values and material interests of the scientists themselves, the policy makers using and abusing scientific advice, and contextual factors such as environmental crises or scientific discoveries.

In this last category, and central to Litfin's argument, is the claim that the discovery of the hole in the ozone layer over the Antarctic forced a dramatic shift from a dominant anti-regulatory discourse to a precautionary one. Litfin claims that the ozone hole did not simply provide new scientific evidence to a static policy



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discourse by which negotiators derive policies from such evidence.

The impact of the ozone hole came not from clarifying environmental risks but from clarifying the inability of scientists to know those risks with any certainty. Heightened public perception of the inherent uncertainty of scientific knowledge in this area forced negotiators to take a new, precautionary approach to uncertainty and risk, rather than an actuarial approach that tended to reinforce business-as-usual.

Litfin draws our attention to the power that discourse wields by constraining policy debate, legitimizing certain values, interests and knowledge, while delegitimizing others. What scientists know becomes of less import, while how that knowledge is "framed, by whom, and on behalf of what interests" becomes central. As we enter a post-industrial information order, power increasingly devolves from those who control material resources to those "most proficient at controlling and manipulating informational resources". Knowledge and power become increasingly intertwined.

Ozone Discourses poses a serious challenge to both the theoretical and empirical literature on international environmental negotiations. It will, however, disappoint two readerships. Litfin's complex and contingent narrative will disappoint those seeking a simple causal explanation of the "success" of the Montreal Protocol negotiations and its generalization to other cases. As she admits, her discursive approach cannot provide the parsimonious or generalizable explanations such readers desire.

The book will also disappoint those with a policy bent. Litfin claims that negotiating international environmental regimes requires careful choices of "discursive strategies," but she fails to delineate what strategies are available and how to choose among them.

Litfin has shown us that discourse matters. She has not, however, shown us what discourses to choose, and how to induce the discourse shifts needed to "save us from environmental ruin." But *Ozone Discourses* will challenge even these readers to re-examine how well we understand science's relationship to policy.

Ronald B. Mitchell

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BOOKS DIGEST

- POWER OF DEVELOPMENT, edited by Jonathan Crush, Routledge, London and New York, 1995, £14.99/\$19.95 324pp. ISBN 0-415-11177-3.

Post-colonial, post-modern and feminist thinking have focused on the power structures embedded in global development, challenging the ways in which development is conceived and practised and questioning its meaning. This collection of essays and case studies weaves together all three critiques to explore the languages and practices of development discourse, and how and why it changes over time.

- RESISTANCE TO NEW TECHNOLOGY: *Nuclear Power, Information Technology and Biotechnology*, edited by Martin Bauer, Cambridge University Press, Cambridge, 1995, £50/\$74.95 (hb) 422pp. ISBN 0-521-45518-9.

The essays in this volume compare changing resistance in Europe, the US, Japan and Australia to three post-war technologies. The book's thesis is that, far from being simply a nuisance to "progress", resistance gives a certain technology its particular shape in a specific context.

- NATURE'S BODY: *Gender in the Making of Modern Science*, by Londa Schiebinger, Beacon Press, Boston, 1993, \$25 (£19.99, Airlift Books, London) (hb), 224pp. ISBN 0-8070-8900-1.

When plants were discovered to reproduce sexually, 18th century botanists ascribed to them passionate relations, polyandrous marriages and suicidal incest (but never homosexual liaisons). Schiebinger's humorous and meticulous account details how the "fathers" of modern science incorporated their intertwined assumptions about gender, sex, race and class into their classifications and descriptions of plants, animals and people with disturbing implications for science today.

- JOURNEY TO CHERNOBYL: *Encounters in a Radioactive Zone*, by Glenn Alan Cheney, Academy Chicago Publishers, Chicago, 1995, \$20 (Gazelle, Lancaster, UK, £18.50) (hb), 191pp. ISBN 0-89733-418-3.

This travelogue account of a 1991 visit to Ukraine records conversations with scientists, journalists, refugees, engineers, parents of sick children, government officials, doctors and people living just a few kilometres from the Chernobyl complex to give a grassroots perspective on issues of nuclear power, public safety and government accountability.

- ELEPHANTS AND WHALES: *Resources for Whom?*, edited by Milton M. R. Freeman and Urs P. Kreuter, Gordon and Breach Science Publishers, (International Publishers Distributor, Reading) 1995, £20/\$30 (pb), 321pp. ISBN 2-88449-011-6.

"Mediagenic megafauna" — elephants and whales — are accorded different "values" by local subsistence hunters, ivory traders, tourist operators, Western conservationists and transnational food companies. These essays explore the influence on conservation strategies of these markedly different, often conflicting, values.

- DIGITATIONS: *A Battery of Mind-Blowing Number Crunchings from the Cutting Edge of Eco-Paranoia*, by Rowland Morgan, Michael O'Mara Books Ltd, London, 1996, £4.99 (pb), 190pp. ISBN 1-85479-639-1.

By the year 2005, Americans will be spending almost 8,000 centuries each year sitting in stopped traffic. Coal-fired power stations waste two-thirds of their energy. This anthology of statistics is a telling social and ecological commentary on the ironies and inefficiencies of the consumer society.

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