

Dominant Social Paradigm to a New Environmental Paradigm that is biocentric. Professors may want to explore in class whether or not there may be multiple political influences. Throughout the book, the authors have an overreliance on opinion polls to represent the values and politics of different countries, without acknowledging that polls do not always connect to action or knowledge.

Other useful features include an excellent chapter on the United States, which contains some of the authors' own recent research findings. The chapter on post-communist countries is also particularly strong and informative. Relatively little information is available on these nations. The final chapter, which provides examples of emerging frontiers in environmental politics, ranging from ecosystem management to environmental justice to Buddhist environmentalism, is also stimulating and will expose students to diverse potential directions for future developments in environmental politics. In conclusion, the textbook provides much valuable material but will need significant supplementation.

Harrison, Neil E., and Gary C. Bryner, eds. 2004. *Science and Politics in the International Environment*. Lanham, MD: Rowman and Littlefield.

Reviewed by Mark Henderson
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Complex interactions between science and politics cannot be explained by current theory. This volume does not claim to break new theoretical ground, but instead challenges its readers to become theory-builders themselves. Designed primarily for teaching purposes, this book will be a useful complement to conventional textbooks in courses on international environmental politics or science and decisionmaking.

In the case method tradition, the lengthy yet readable chapters offer a wealth of details on topics ranging from local pollution problems to global climate change, purposefully raising more questions than they answer. As co-editor Harrison explains in the appendix, these chapters depart from the usual format of case studies that marshal data to test (or demonstrate) specific hypotheses. Instead, the contributors to this volume aimed to be "theory agnostic," presenting a wider "slice of reality" (p. 352). Of course, writers must be guided by their own theoretical stances, stated or unstated, in choosing what facts to include when narrating any issue, but these scholars are indeed shooting with a wide-angle lens. Students accustomed to articles that neatly tie up theoretical loose ends may at first be frustrated by chapters that end only with unanswered questions, but such is the state of this complex and evolving field.

To begin the first of the book's four main sections, biologist Richard Brusca and co-editor Bryner, a political economist, team up for a discussion of biosphere reserves in the Sonoran Desert along the US-Mexico border, ranging from historical conflicts over water resources to the advance of scientific knowl-

edge about the ecosystem and human impacts on its environmental quality. The authors offer ambiguous conclusions for students to consider: scientific evidence and local stakeholders were successful in spurring the establishment of the reserves, yet development planning and cross-border cooperation remain lacking. Political scientist M. Leann Brown follows with a comparison of the European Union's responses to two food safety challenges, the BSE (or "mad cow disease") crisis and the debate over the use of bovine growth hormones. Brown prods readers to ask how scientific uncertainty—a recurring theme in this field—muted the influence of scientists in shaping policy.

The second section consists of a pair of articles on climate change that tread similar ground but to different ends. Marvin S. Soroos provides a lucid general introduction to the problem of "global warming" and its probable consequences, covering its emergence as a topic of scientific inquiry and the history of international negotiations to combat it. Harrison rehashes the same series of negotiations and scientific reports, but focuses on the changing presentation of scientific uncertainty and the evolving political response. Soroos warns that, while scientific alarm about the threats of climate change has spurred agreements like the Kyoto Protocol, such regimes are as yet insufficient to counter those threats. Harrison, walking his readers through nine different possible explanations for the outcomes of interactions between science and politics, asks whether scientific uncertainty has actually retarded policy development.

Two chapters rather different in scope make up the third section under the heading of "Science and Precaution." Focusing on Ontario, Canada, Don Munton traces how, after years of mounting but scattered evidence, acid rain suddenly emerged as a problem in scientific and political consciousness, producing significant local and cross-border policy responses. His fellow political scientist Radoslav Dimitrov, on the other hand, chronicles a topic—global deforestation—where scientific knowledge remains rather incomplete and a political consensus has yet to emerge.

The final four case studies explore how the interplay of science and politics is mediated by "culture" in different settings. Returning to the topic of acid rain, Kenneth Wilkening frames his chapter in terms of three hypotheses about regional differences in scientific knowledge, political actors' use of science, and how science is situated in cultural contexts. Wilkening goes further than most of the contributors here in suggesting these new hypotheses, but his conclusions keep to the spirit of the book by raising still more questions. Another interdisciplinary duo, law and policy scholar Jeremy Firestone and fishery scientist Tom Polacheck provide a useful comparison of the standards of proof required in science and in international law, illustrated through the southern bluefin tuna case. Sociologists Michael Carolan and Michael Bell return to a local focus with their treatment of the controversy over suspected dioxin emissions from an Ames, Iowa power plant, where social contexts were as important as scientific claims in judging opposing experts, and where the interests of affected parties far beyond the community found no representation. Geographer James Eflin adds a chapter that contrasts the histories of cooperation around the Baltic Sea

in Europe and the Great Lakes in North America, providing a thorough introduction to the concept of ecosystem management as well as the problems common to managing transboundary resources.

The selection of cases here is somewhat eclectic, but while not every important issue in the field is represented, the volume covers a good range. For readers seeking in-depth background material on these issues, the contributors have done a good job of introducing their often complex histories and jargon (a six-page table of acronyms is also helpful). Although “theory agnosticism” was the authors’ charge, from my perspective the most successful chapters were those, like Harrison’s and Wilkening’s, which did explicitly confront existing theory, rather than just raise questions. The editors’ concluding chapter provides students with an excellent model for sifting through theory and data to formulate new hypotheses. Readers who delve into these cases and engage in the theory-building exercise should be closer to answering one of the book’s most critical questions about the current state of interactions between science and politics (p. 133): “Is there an alternative?”

Bocking, Stephen. 2004. *Nature's Experts: Science, Politics and the Environment*. Piscataway, NJ: Rutgers University Press.

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While virtually all environmental issues involve substantial elements of science, the way in which science affects policy is always complex and always involves values and judgments that go far beyond science itself. In *Nature's Experts*, Stephen Bocking provides a superb introduction to the complexity of these interactions. He illuminates these issues from the multiple and overlapping perspectives of scientists, institutions, interest groups, and citizens.

The book evolved from a course Bocking teaches to science and non-science undergraduate students at Trent University, Ontario. The course is designed to show non-scientists how science works, to show scientists the complexity of real-world environmental decision-making, and to help both groups understand why scientific conclusions so often play disappointingly small roles in real life decisions.

His approach is deeply embedded in the “democratic” approach to science characteristic of the US, Canada and other open societies. Ideally, in these societies information used in the policy process would be relevant, technically credible, and politically legitimate. The strength of the book is its clear explanations of how and why failure frequently occurs, and its suggestions of how to do better.

From an intellectual point of view, one might assert that how much knowledge is necessary for an informed decision depends on the complexity of the science, the consequences of the decision and societal decisions about how much any of this matters. From a practical point of view things can look quite different. For illustrative purposes I’ll focus on one area: research.