

Book Review

Wilson, D. C. 2009. *The Paradoxes of Transparency: Science and the Ecosystem Approach to Fisheries Management in Europe*. MARE Publication Series No. 5. Amsterdam: Amsterdam University Press.

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Adaptation is a hugely important and often ignored part of institutional arrangements for managing the commons. We talk and write a lot about the need for adaptive management, especially when we are writing about commons situations fraught with uncertainty and risk; and we argue for adaptive governance, especially when the topic is system complexity. Some of us have even dabbled in the relevance, or lack thereof, of neo-Darwinian adaptation for understanding relationships between people and their natural environments. But what, really, do we know and understand about how people make sense of environmental change and decide what to do about it in order to attain, protect, or restore some desired state of the environment? What kinds of institutions do they create and alter? How do they learn? Douglas C. Wilson focuses on those questions in *Paradoxes of Transparency*. The book is based on his research among fishery scientists and managers in Europe who have been grappling with the task of managing marine fisheries, a difficult and complex matter in itself, in the context of efforts to do so in an ecologically sensitive way, even more challenging and yet critical to the future.

The book is the third of a series published with the imprint of MARE, an interdisciplinary social-science institute at both the University of Amsterdam and Wageningen University. It is devoted to the study of the use and management of marine resources. The intellectual framework is communicative systems theory, developed by Wilson from the work of the social theorist Jurgen Habermas. The question is how people – as social actors – make decisions. What do they bring to this communication challenge? To what extent is the process “rational” in the sense

of being based on careful and reasoned deliberation of the facts and weighing of the values and interests at hand, as distinct from decisions that are made through the influence of status and prestige, the exercise of the power of authority, or the exchange of money. The first, so-called “rational communication”, is far more embedded in the shared “lifeworld” (Habermas 1984), or rich mixture of shared background meanings that make communication possible.

Applied to the case at hand – of marine fisheries management in Europe, mainly within the institutional structure of an international science group, the International Council for Exploration of the Seas (ICES) – the question of adaptation through deliberation becomes how scientists make advice. Thus, skipping for the moment over the first part (as Wilson invites readers to do if they are impatient and disinterested in social theory), Chapter 4 depicts the structure and functioning of the advisory system for fisheries management in Europe, both transnational (ICES) and national; technical matters, such as how data are gathered – a key issue contributing to scientific uncertainty; and core issues of transparency and professional boundaries. Chapter 5 reports on survey research which documents and analyzes the attitudes and working conditions of ICES scientists caught up in the advisory system. Chapter 6 examines how the call for an ecosystem approach to fisheries management is interpreted and responded to, and Chapter 7 uses the participant-observation and interview methods of the research to represent an ongoing debate and restructuring process within ICES to better address (adapt to and learn from) challenges in the system. The ethnographic value of these chapters came not only from structured research but also from Wilson’s roles within ICES as part of its Working Group on Fisheries Systems, a pioneering effort to bring social scientists into the organization.

The earlier, more theoretical chapters definitely should not be skipped. Chapter 2 is Wilson’s interpretation of what in the fields of sociology of science and science and technology studies (STS) is relevant to the study and how he interprets it; this chapter is a valuable introduction to those fields and could be used for that purpose on its own. Chapter 3 develops the conceptual basis for assessing the process of developing scientific advice for fisheries policy, including what Wilson means by “the paradoxes of transparency”. With regard to sociology of science and STS, among other things Wilson challenges those who suggest that because of the “co-production” of society and nature, there is no analytic difference between them. He argues that there is a significant difference. For a communications system to be able to adapt, it is not enough to sense the need for change; knowledge about nature must become something people talk about (discourse), which in turn must somehow become the basis for collective action, expressed in policy, legislation, informal rules, or whatever. And the reason scientific knowledge deserves special attention is that science, due to what Wilson calls its ‘radical commitment to transparency’ (p. 21), has a uniquely high potential to be the kind of knowledge useful for collective action.

Science is built upon the value and goal of transparency, but, as Wilson argues and shows at length in this book, the techniques used to attain transparency

in science often undermine themselves. He outlines four general transparency paradoxes: (1) of precision and expertise, where, for example, the high level of quantification allows for the scientific goal of replication, but it also requires mathematical expertise that is difficult to acquire; (2) of quantification and reification, or how measurement transforms and invents phenomena, sometimes giving an illusion of certainty and precision that is not justified, such as a “fish stock” as a singular entity; (3) of surveillance, whereby the requirement of openness of negotiations to others can make it difficult for the scientists to search for consensus or the negotiators to search for compromise; and (4) of scale, in that efforts to involve a large number of people can distort information and pose challenges to the coordination of behaviour. Briefly, if fewer people are involved, such coordination can be done through rational communication, but with larger numbers of people, more “coercion”, through authority, status, or financial means, is required, and the information being shared can lose richness and nuance, becoming systematically distorted. All of this is heady going. But Wilson applies it to the case study of fisheries science within the ICES system very systematically, with care to keep the reader both informed and interested.

The book culminates in a complex and provocative analysis of the so-called ecosystem approach to fisheries management (EAFM), a major policy innovation that is challenging to scientific institutions that have been organized around single-species assessments, within a political system that has required the use of fixed production quotas (TACs in fisheries language) to enable meeting European Union requirements that each nation gets its share.

Wilson frames the efforts of ICES scientists to adopt EAFM as relevant to ‘the problem of knowledge and the adaptation of the social system to its environment’ (p. 161). He observes the contradictory or at least dual feature of EAFM, which is that it requires centralized decision-making to handle the interagency coordination and multi-disciplinary expertise required (and, I might add, in some instances the larger spatial scope of management units, such as “large marine ecosystems”), but it also requires more decentralized and participatory decision-making across multiple scales because of the need for detailed information and knowledge about ecological and social processes from local to global. Casting the matter in this way allows Wilson to suggest the social and technical dilemmas being faced in the ICES system and ways forward, including structural changes within ICES, the focus of Chapter 7.

In his concluding chapter Wilson addresses the question of what has allowed ICES to be meaningfully engaged in adaptive learning. He focuses on creative tensions, or areas of disagreement or differential emphasis, and their rootedness in the overall desire to protect communicative rationality, and the paradoxes of the transparency involved. He reflects on what the research taught him that he had not thought before, including the role of creative tensions and the notion that transparency and accountability, so central to science, are “ways of structuring situations that make a mutual understanding possible” (p. 275) and therefore act as integrating devices in complex and changing environments. And he concludes

the volume with suggestions for the organizational framework, a nested, results-based system that would help ICES and its stakeholders and clients achieve an ecosystem-based approach to marine fisheries management.

These remarks skim the surface of a rich and complex book. The book is a major contribution to fisheries science, environmental sociology, and the field of science and technology studies. It can be read and used as a whole or for its parts – for example, Wilson’s excellent review of the inception and meanings of ecosystem-based management and his critical treatment of science and technology studies would be useful parts to assign to students in a seminar. To fisheries scientists and policy-makers it brings an appreciation of the work they do, an opportunity to be reflective about that work, and an example of how a social scientist can indeed contribute to their enterprise. To sociology and science and technology studies it brings a large case study employing social research methods and a daring and imaginative venture into new territories. To commons researchers it provides a powerful and comprehensive study of institutional responses to complex and changing notions of the relevant scope of the commons and who the commoners are. Finally, *The Paradoxes of Transparency* stands out as an exemplar of how social theory cannot only contribute to but benefit from immersion in the world of fisheries management.

Literature cited

Habermas, J. 1984. *The Theory of Communicative Action: Volume I Reason and the Rationalization of Society*. Boston: Beacon Press.