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Book Review

Complex Issues: Complex Methods?

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Obtaining sustainable development is a complex goal, no doubt about it. Identifying methods that help us better understand this complex goal and move toward its implementation is a serious need from a policy perspective, and Dr. Emery Roe (1998) offers us his contribution in *Taking Complexity Seriously: Policy Analysis, Triangulation and Sustainable Development*. In essence, Roe intends to provide an analytical method as an alternative to pure inspiration for making decisions in the face of surprise.

The book has three parts. The first one introduces us to the author's definitions of complexity, uncertainty, and surprise, and to his understanding of the problem of making policy decisions in complex and uncertain settings under the pressure of surprise. Roe defines uncertainty "for most analysts" as a "lack of knowledge about what matters," and because "what matters ... is often the issue's complexity," we must deduce that Roe's definition of uncertainty is the analyst's lack of knowledge about complexity. Moreover, to many analysts, "complexity is the issue's internal intricacy and/or interdependence with other policy issues." Therefore, Roe defines uncertainty as the analyst's lack of knowledge about the issue's internal intricacy and/or interdependence with other policy issues. In this context, "the interplay of complexity and uncertainty produces surprise."

Part I promises a solution (triangulation) to the problem of complex public policy making and offers a new definition of complex public policy as "courses of action and their revision or redirection in light of surprise, both of which are to be triangulated upon from different directions and methodologies" Because Roe's definition incorporates triangulation, the reader has three choices: he can choose to accept the definition and the method right away, dismiss the definition and the method (and throw the book away without reading beyond page 16), or give the benefit of the doubt to both the definition and the method. I chose the last option, while keeping in mind that making decisions in the face of surprise is about reaching decisions (courses of action), not just achieving greater understanding.

Unfortunately, it is with regard to decisions that the book is definitely inadequate. Part II of the book uses triangulation to analyze the famous debate around Ludwig et al. (1993) that unfolded in the journals *Science* and *Ecological Applications*. Whereas this debate has certainly been an important milestone in our understanding of the limitations of the concept of sustainable development, it was an academic happening, not a practical challenge, and definitely not a policy issue that confronted surprise, although it did discuss the topics of policy and surprise. That Roe decided to show the strength of triangulation using this case study may signify only that triangulation is not a decision-making tool, but primarily (if not totally) an analytic tool. Confusing analysis with decision making is a common risk among academicians, but we must be aware that understanding and being able to make better decisions are not synonymous, and one does not necessarily nor immediately follow from the other.

Roe uses four approaches to triangulate on the answers to four questions: What is sustainable development? Why is it an issue? Ideally, what needs to be done? Practically, what can be done? The four approaches he uses are Girardian economics, cultural theory, critical theory, and the local justice framework. These approaches are based upon widely different world views, concepts, and assumptions, because, according to Roe, triangulated approaches

must be "orthogonal" to each other. Consequently, by the time the reader reaches Part II, he finds himself strongly agreeing or disagreeing with one or more of these approaches. Of course, the author conveys some approaches more effectively than others: for example, he is passionate in his portrayal of Girardian economics and critical theory, either because he really believes in them or because he finds them particularly sympathetic. Naturally, the book is not intended to teach those approaches, and I strongly advise anyone who wants to learn them to go directly to the original sources.

Part III has triangulation at its core. Roe contrasts the answers he obtained using the four approaches, records and discusses their points of convergence, and emphatically puts forth a set of recommendations. His final word on the sustainable development debate is that what is "really wrong" with Ludwig et al. is their conclusion that the "complexity of the underlying biological and physical systems precludes a reductionist approach to management." From the perspective of his triangulation, Roe also finds it "ironic that ecologists ... plow ahead and argue" in support of such reductionistic recommendations as "halt population growth" and "reduce per capita consumption."

Roe's indignation left me considerably confused, because, for me, stating that biophysical complexity precludes a reductionistic approach is not automatically contrary to "reduce per capita consumption" and so forth. Only if these particular problems are considered in isolation from each other and from their geographical, historical, socioeconomic, and biophysical contexts, i.e., only if overcoming these problems is perceived as a reductionistic fix, would there be an evident contradiction. Undoubtedly, there is a strong ideological tradition in support of this contradiction that continuously insinuates reductionism, overgeneralization, and oversimplification into our understanding of socioeconomically driven environmental issues. It would also seem that Ludwig et al. fell victim to some of that schizophrenia, as Holling (1993) points out in his response to their article. Ecologists in general can sometimes be simple-minded when it comes to socioeconomic complexity; hence the need for interdisciplinarity. However, if Roe chooses to denounce socioeconomic reductionism among ecologists, then the statement by Ludwig et al. denouncing biophysical reductionism cannot be "really wrong." My preliminary conclusion is that triangulation may obscure clear thinking. This is the end of the book, and if we want to learn more about the application of triangulation, we are kindly invited to read Roe's forthcoming book, which will be the third of a trilogy.

Although I tend to agree with the book's final recommendations for dealing with complex issues (e.g., stakeholder participation), and I strongly sympathize with its interdisciplinary spirit, it did not strike me as a major contribution. I was not surprised, gratified, or educated by the conclusions, and I found that the "detailed case study" in Appendix II only repeated what had already been said on more theoretical grounds. Systematically learning and using four disciplinary approaches, honestly assuming four different (conflicting) world views, and single-handedly applying them to an issue to find convergences represents an extraordinary and admirable effort. Unfortunately, the fruits of this effort are not, in Roe's examples, interesting, original, or even defensible. I am not convinced that careful critical reading of the sustainable development debate using any other interdisciplinary approach would not yield stronger conclusions. I am not convinced that triangulation was necessary at all to reach the conclusions offered. I am not convinced that the four approaches used were the best suited to the analysis, or that they were used to their full capacity.

The book is concise, cohesive, and easy to follow. I found the references and Appendix I very useful for my own research on interdisciplinarity and ideology. It is my humble opinion that those who have been working for at least three years on the practice and theory of interdisciplinary approaches to environmental issues and who never read this book will not be worse off than those who do read it. On the other hand, those who are just starting and are therefore totally confused may find the book useful. Is this the kind of breakthrough that the readers of *Conservation Ecology* are looking for? I doubt it.

BOOK INFORMATION

Roe, E. 1998. *Taking Complexity Seriously: Policy Analysis, Triangulation and Sustainable Development*. Kluwer Academic, Boston, Massachusetts, USA. 152 pp., hardcover, US\$ 119.50. ISBN 0-7923-8058-4.

RESPONSES TO THIS ARTICLE

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