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## Book Review

# Emery Roe on Complexity: Avoiding Triangulation-Strangulation

*K. Michael Bessey*

*Emory University and PricewaterhouseCoopers LLP (Canada)*

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Emery Roe (1998) makes a smooth segue in this collection of revised journal articles (from *Transition, Ecological Economics, International Journal of Sustainable Development, World Ecology, Philosophy and Social Criticism, Economic and Political Weekly, and Environmental Management*) to examine the pitfalls of one-dimensional policy analysis in a multidimensional world, and to propose triangulation as a useful alternative.

Anyone who has tried to plan a block party, let alone address complex policy concerns, can tell you that the “certainty” of any existing condition or the firm assertion of what will occur in the future is an illusion. *Taking Complexity Seriously* begins with a discussion of archetypical policy analysis as applied to highly complex problems characterized by uncertainty. Webster’s Dictionary defines policy as “a definite course or method of action selected from among alternatives and, in the light of given conditions, to guide and usually determine present and future decisions.” Clearly, this denotes a methodical path through known (or reasonably expected) circumstances. Rather than determining a course of action and forging down the trail, triangulation involves determining one’s position from at least two fixed points some distance apart — in the case of complex policy issues, from at least two orthogonal (that is, as divergent as possible) models. In this way, Roe suggests, the concept of triangulation offers a rich way to establish a reasonable “point of departure” for moving forward on such issues. Through his assessment of the perceived benefits and shortcomings of standard analytical tools (for example, cost-benefit analysis, sample surveys, and regression techniques), he distills four simple questions relevant to policy analysis of complex issues. What is the problem? Why is it an issue? Ideally, what needs to be done? Practically, what can be done?

Sustainable development is as much the medium as it is the message in this book, precisely because it

exemplifies complexity (characterized by a high number of components in an evolving system, each with a high degree of differentiation and a high degree of interdependence among them). In Section Two, Roe frames the sustainable development issue(s) in the debate sparked by the Ludwig, Hilborn, and Walters (1993) article in *Science*, "Uncertainty, resource exploitation, and conservation: lessons from history." He uses four very different models (specifically, Girardian Economics, Cultural Theory, Critical Theory, and the Local Justice Framework) to respond to the controversy, and employs the four questions crucial to complex policy analysis derived in Section One to drill down to the policy relevance of each model. The final chapter of Section Two uses the model-derived answers to triangulate on sustainable development issues. There are two appendices to this section. The first provides a useful summary of 10 approaches to interdisciplinary analysis, and the second, a case-based application of triangulation depicting the response of villagers in Mundur, southern India, to periodic droughts.

The final section of the book comprises an article previously published in *Environmental Management*, which serves to focus the readers' attention on the relevance of the "case" scale in the complex policy concerns of sustainable development.

The essays in this volume draw a distinction between policy (which strives toward generalization) and triangulation (which uses multiple and divergent models to gain a reasonable perspective for a point of departure). It is at the interface of policy analysis and adaptive management that triangulation serves a valuable role. Triangulation can enable policy makers to iteratively assess and address complexity, uncertainty, and surprise — all elements of any multifaceted undertaking. However, the approach requires that the policy analyst not only accept uncertainty and surprise, but also embrace them. What is more, she must accept that what "managers want to manage...is itself unmanageable and uncontrollable." For those hardened in the fire of management consultancy, this message is a welcome reinforcement. Roe thankfully acknowledges that any tendency to look to triangulation as the path to convergence of existing models or to development of new theory is misguided. The seasoned manager is generally skeptical of any new analytical framework packaged as the "Zen" of policy analysis. Few would be surprised at Roe's conjecture that the most fruitful discussion around any important issue stems from an "awareness" of differentiation, the use of careful language, acceptance of the uncontrollable, and a grounded understanding of feedback cycles — all elements that Roe identifies as key in triangulation. The trick will lie in not simply replacing "analysis paralysis" with "triangulation strangulation!"

This book is accessibly written and an enjoyable read. For those actively involved in ecological management and sustainable development, this work provides an interesting look at applying triangulation in related fields. For others, Roe's conclusion that there can "never be only one kind of sustainable development" is sufficiently broad in its implications to warrant examination of its basis.

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## BOOK INFORMATION

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

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## LITERATURE CITED

**Roe, E.** 1998. *Taking complexity seriously: policy analysis, triangulation and sustainable development*. Kluwer

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**Address of Correspondent:**

K. Michael Bessey  
688 River Road  
Winnipeg, Manitoba  
Canada R2M 5A4  
Phone: 204 291-9437  
[michael.bessey@post.harvard.edu](mailto:michael.bessey@post.harvard.edu)

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