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Book Review

Emilio F. Moran. 2010. *Environmental Social Science: Human-Environment Interactions and Sustainability*. Hoboken, NJ: Wiley-Blackwell.

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Commons scholars know very well that the study of human-environment interactions requires an interdisciplinary approach. Moran's book represents a nice attempt to furnish the reader with a basic understanding of the core ideas underlying both the natural and the social sciences. This task seems easier to accomplish for the natural sciences since these are deeply grounded in evolutionary theory and in a widely shared understanding of system ecology. Outlining the broad concepts that guide inquiry in the social sciences proves to be a more difficult task, involving a difficult selection from a multitude of theories, hypotheses, concepts and unverified (and often unverifiable) ideas. With regard to outlining the relevant aspects of a social sciences perspective, Moran's choice fell on a relatively small number of theories and concepts that seem to possess some empirical foundation and explicitly take into account human-environment relationships, e.g. demographic transition theory, decision-making theories and cultural ecology.

The most important part of the book is devoted to a tentative sketch of what could be a true sustainability science. This is a challenging enterprise, going beyond the simple problem of merging knowledge coming from different disciplines and dealing with issues of complexity and multi-scale/multi-temporal analyses. As one reads the book, it becomes clear that the road ahead is still long and difficult. Actually, one major merit of Moran's work is probably that it highlights some of the main research priorities of the new field, e.g. the relationship between social institutions and the dynamics of natural resources, the evaluation of ecosystem goods and services, and a better understanding of how current urbanisation processes affect sustainability.

For non-specialists, the best part of the book is probably the 'technical' passage, where the perspective of spatial approaches to the study of human-environment interactions is presented. In general, a spatial perspective can improve our knowledge in the study of 'traditional' sociological or anthropological themes, but it becomes particularly crucial for issues related to sustainability. A spatial approach means more than simply adding a geographical dimension to individuals' actions. Rather, it means understanding the meaning of landscape and other geographical features both as important factors affecting agents' behaviour and as the ultimate target of their actions. GIS and remote-sensing approaches can furnish nowadays an enormous amount of information with amazing precision. Nevertheless, this information is of little use if it is not explicitly incorporated in social-ecological models capable of linking it with the behaviour of agents living in the space under consideration.

Although there is much to praise in Moran's work, from the point of view of an IJC reader it looks rather simplistic when dealing with common-pool resource issues. Unlike what a reader could eventually understand from the book, contemporary CPR research does go beyond Ostrom's *design principles*, taking into account a much larger set of factors affecting the performance of social-ecological systems (see Ostrom 2007). This is not sufficiently acknowledged in the book, however, where only a short section is devoted to CPR issues under the label of 'Institutional analysis' (pp. 131–134).

A second limitation of Moran's work is the large number of theories and concepts that are listed and which often represent a challenge to the reader's understanding. It is clear that the volume aims at collecting insights and basic concepts from different disciplines. Much of the added value of this kind of work, however, derives from a critical reorganisation of the insights gained by previous research. The foundation of a coherent sustainability science would benefit from such an endeavour.

It is also worth signalling the number of small mistakes or uncorrected data reported throughout the volume. For instance, on p. 6 (and again on p. 9) the current human population is reported to be six billion, whereas at present we number almost seven billion. Similarly, on p. 7 (and again on p. 14) it is argued that current greenhouse gas concentrations are 'at the highest levels known over the past 400 millennia'. Actually, recent research has shown that at no time during the last *800 millennia* were carbon dioxide concentrations as high as they are today (Lüthi et al. 2008). Although not crucial for the volume arguments, I think that the reporting of correct and up-to-date data could only improve their quality.

Apart from these shortcomings, the volume represents a step in the right direction. It is clear that the establishment of a new interdisciplinary field cannot be done without multiple serious attempts. Thanks to its capacity for surfing across natural and social sciences, Moran's work will help scholars from both sides of the great disciplinary divide to bridge the gap that still separates them. This is by no means a trivial result.

Literature cited

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