



“Summary of article by Richard B. Norgaard: The Case for Methodological Pluralism” in Frontier Issues in Economic Thought, Volume 1: A Survey of Ecological Economics. Island Press: Washington DC, 1995. pp. 62-66

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### **“Summary of article by Richard B. Norgaard: The Case for Methodological Pluralism”**

Scholars and practitioners in the developing field of ecological economics are committed to drawing on ideas from both ecology and economics. The study of ecosystems is traditionally conducted through models of population dynamics, nutrient webs, energetics, foraging and reproduction strategies and coevolution. Economics is studied through the understanding of political economy, markets, institutions, input-output techniques, accounting, monetary and Keynesian models. Ecology provides links to other natural sciences, and economics to other social sciences, and each offers a number of methodological approaches to help in the evolution of ecological economics. However, there are conflicts between the two fields as well, especially between what each has historically seen as the right way of asking questions and arriving at answers, and in the methods each has for predicting consequences. This paper argues that there cannot be a single right way of knowing and predicting, and therefore calls on the field of ecological economics to adopt methodological diversity and a culturally adaptive approach.

#### **Essence, Change and Methodology**

Economics and ecology explore systems in a manner sufficiently similar that there have been important conceptual transfers between them. However, economists and ecologists have very different world views, which result in different concepts of how people should relate to their environment. It is unlikely that the divergence in world views will be resolved by the theoretical similarities that exist.

The dominant model adopted by Western economists is that of the market. Economists have developed highly sophisticated mathematical and econometric techniques to understand how markets link individuals, who are suppliers of labor, capital and land, with demanders of products and services. Many economists are convinced that the market model provides insights into the functioning of markets, economic efficiency and policy. Critics argue that, mathematical sophistication notwithstanding, the models are simplistic and can be used to tell any desired story. However, the market model is not the only economic model that economists use. Historical, institutional and Marxian models are still dominant in a few schools of thought in the West.

It is more difficult to trace the development of methodologies in ecology. This is due in part to the relative newness of the field, as well as to the less clear demarcations between the biological disciplines, all of which have influenced ecology. A distinct methodological literature in ecology has developed only recently.

## Logical Positivism and Methodologies in Economics and Ecology

Logical positivism forms the basis of the relationship between science and society in the West and the modern parts of the developing world. This movement towards finding universal truths started in the period of the Enlightenment. The notions of objectivity and universality that dominated 19th century inquiry further influence today's thought. Individual disciplines, working separately, are all working towards a consistent set of laws about the nature of all things. Gaps between disciplines, it is argued, can be bridged by interdisciplinary work.

This presumed positive knowledge influences the way the scientific establishment operates and the role of scientific knowledge in policy making. However, in reality, the different types of knowledge, values and images within different disciplines that inform the development-versus-environment debate have eroded the alliances of the past.

A taxonomy of methodological beliefs will help compare different methodologies in economics and ecology. The taxonomy takes four key assumptions of logical positivism and classifies methodologies according to whether or not they make these same assumptions. This exercise will help bring out the methodological richness of economics and ecology, showing how each discipline approaches problems that do not fit the assumptions of logical positivism.

The four key assumptions of logical positivism that guide the work of most economists and ecologists are:

- 1) methods of understanding reality are independent of culture;
- 2) reality is independent of methods of understanding;
- 3) reality can be understood in terms of universal laws; and
- 4) reality can be understood in terms of one set of universal laws.

Logical positivism underlies the methodological approaches of most modern schools of economic thought, including mathematical economists, Marxists and institutionalists. An important exception was the German historical school. This school contended that everything social was conditioned by history and differed from place to place, and argued against the adoption in the social sciences of the positivist, value-free methodology of the physical sciences. Much of the current methodological diversity in economics can be traced to the "Methodenstreit" debates between the German historical school and the positivists. The field of ecology, on the other hand, utilizes a diversity of methodologies, which can be traced to the influence of biology and the long tradition of direct observation in the field.

Methodological diversity within and between economics and ecology can be related to the taxonomy of methodological beliefs in the following ways:

- 1) **Methodological Dependence on Culture:** Marxists, neoclassicists and institutionalists have sought culture- and value-free explanations. Agroecologists, on the other hand, acknowledge the ways in which culture affects method.

2) **Dependence of Reality on Methodology:** Economists and economic thinking have a heavy influence on the shape of the economy. The situation is similar in agroecology.

3) **Knowledge is Universal or Useless:** In economics, neoclassicists continue to believe that universal policy recommendations can be drawn, although no universal laws (except that of the downward sloping demand curve) have been found. Institutionalists, on the other hand, argue that knowledge is specific to the situation. Ecologists differ among themselves on the issue, but in general they would like to seek universal laws tempered with pragmatism.

4) **On the Unity of Knowledge:** Some economists have argued that the neoclassical model can be applied to explain history, politics and sociology, but this view is rather recent. Most recognize the limitations of economic theory in realms beyond explaining markets. Institutionalists have always acknowledged the importance of history, politics and culture as components of economic explanations, rather than as challenges to their theories. Ecologists tend to accept that different theories can explain different phenomena. Some ecologists argue that an eclectic, interpretative methodology is more suitable for use in ecological and evolutionary theorizing than logical positivism.

The above analysis of economic and ecological methodologies shows that a variety of methodological positions exist that are not rooted in logical positivism.

### **The Costs of Methodological Poverty**

The methodological diversity of ecology has helped it to be more scientific than economics. Both economics and ecology have used theories that have been shown to be logically inconsistent. However, due to a lack of methodological alternatives, economics has failed to address this problem, while the methodological diversity in ecology has helped it respond to the challenge.

In ecology, when "diversity stability theory" was shown to be logically inconsistent there followed an intensive rethinking that led to a better understanding of how different types of diversity related to different definitions of stability. When the logical consistency of neoclassical economics has been questioned, however, the implications of the arguments have been discussed for a while, but then ignored. For example, it has been shown that gains from free international trade depend on a set of conditions that never exist in the real world, yet free trade is advocated. Similarly, Lipsey and Lancaster<sup>1</sup> (1956) demonstrated that economic prescriptions must be tailored to specific circumstances except in the rare case where all but one of the assumptions of market theory hold. Yet neoclassicists continue to make universal recommendations based on this theoretical framework, without paying heed to the specifics of a given situation. Ecologists have been able to rethink their position, while economists could not, because ecologists are methodologically more accustomed to thinking that knowledge can be specific.

### **The Case for Conscious Methodological Pluralism**

For a better understanding of the interplay between economies and ecosystems, a methodological stance should be adopted in which both groups are conscious of the advantages and

disadvantages of their own methodologies and of those used by others. Tolerance should be shown towards diverse approaches. The reasons for such a "conscious methodological pluralism" are:

- 1) Logical positivism is inappropriate but necessary. It is inappropriate because it denies that how we think affects cultural and ecological systems. It is necessary because it is through the lens of logical positivism that most other people perceive things in the modern world. Thus, while using the logical positivist arguments, we must be aware of its problems and attempt to develop more appropriate methodologies.
- 2) It is too early to limit methodologies in ecological economics.
- 3) Pluralism makes sense. Given the complexity of the interactions concerned, there clearly cannot be one best and all-encompassing perspective for understanding them.
- 4) Pluralism prevents brash action. It provides a variety of insights on complex issues, rather than taking only one insight to be the answer.
- 5) Pluralism can help sustain biological and cultural diversity; i.e. methodological diversity supports real-world diversity.
- 6) Methodological pluralism allows more people to participate in the analysis, rather than only the few who are technically endowed to understand a specific methodology.

## Notes

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<sup>1</sup> R. Lipsey and K. Lancaster, "The General Theory of One Second Best," in *Review of Economic Studies*, 24(1956): 11-32