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Electronic Green Journal

Title

Review: The World System and the Earth System by A. Horberger and C. Crumley (Eds.)

Permalink

<https://escholarship.org/uc/item/2fj436wz>

Journal

Electronic Green Journal, 1(25)

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Publication Date

2007

DOI

10.5070/G312510716

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Review: The World System and the Earth System

A. Horberger and C. Crumley (Eds.)

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Horberger, A. and Crumley, C. (Eds.). *The World System and the Earth System*. Walnut Creek, CA: Left Coast Press, 2007. 395pp. ISBN: 1-59874-100-4. \$34.95 Papercover. Alkaline paper.

People-environment relationships have varied temporally and spatially as has society's attitude to environment. In the first half of the twentieth century the philosophies of determinism and possibilism emerged to describe these relationships. Is nature prescriptive, or is it a set of resources to be exploited or domesticated in various ways for the advancement of humans without much regard for its sustainability? The environmental movements of the post-1960s raised environmental awareness and began to change attitudes against a backdrop of increasing globalization; conservation became a watchword and threw together the social and natural sciences which entered an often uneasy alliance.

The situation has altered substantially since then, especially in the context of acknowledged climatic change which is caused by socio-economic development but which is affecting natural systems globally. Science contributed to development via technology and now it must contribute again to establish sustainable development. There is no escape from the intimately linked natural and social sciences. So how do they communicate and how effectively? This was the theme of a conference entitled *World-System History and Global Environmental Change* at the University of Lund, Sweden, in 2003; its content is the subject matter of *The World System and the Earth System*, a title which encapsulates the dichotomy but which, interestingly and perhaps ironically, places the social before the natural!

Following a 12-page introduction, the book is divided into three sections. The six chapters of part one deal with the modelling of socioecological perspectives on various time scales and the use of varied lines of evidence which include documentary and sedimentary records for specific areas. There is also reference to model validation, cyclic change, world systems as complex human ecosystems, parallels

with population ecology re cycle oscillations, synchrony and collapse. Case studies are the subject of the eight chapters of part two. Most examine the natural and cultural factors involved in environmental change on millennial, or longer, time scales. Examples are drawn from Neolithic Europe, ancient Mesopotamia and East Africa while a chapter on Amazonia raises the question of whether ancient societies created a suitable environment for their survival or were constrained by their environment and how the issue can be resolved. The seven chapters of part three debate the sustainability or otherwise of the world system. Topics include indicators of sustainability, the integration of human and environmental data, lessons from the past, island perspectives, and sustainable strategies for development, disease pandemics and trade.

There are no quick solutions as to how to enhance the compatibility of socio-economic and scientific data for predicting the direction and intensity of environmental change for the formulation of sustainable development strategies. However, at least environmental scientists and social scientists are asking the relevant questions and coming together to discuss this vital issue as well as reminding the world at large that lessons from the past are pertinent to planning for the future.

This book should be on social science, geography, environmental science/politics, and planning reading lists for senior undergraduate and postgraduate students.

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