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The Archaeology of Environmental Change: Socionatural Legacies of Degradation and Resilience

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BOOK REVIEWS

The Archaeology of Environmental Change: Socionatural Legacies of Degradation and Resilience

CHRISTOPHER T. FISHER, J. BRETT HILL,
AND GARY M. FEINMAN (EDITORS)
UNIVERSITY OF ARIZONA PRESS,
TUCSON, AZ, 2009
VIII + 328 Pp. \$60.00 CLOTH

REVIEWED BY E. CHRISTIAN WELLS

“Going green” and “sustainability” are on everyone’s minds right now. Understandably, most of the discussion on these topics comes from (and is influenced by) the biophysical sciences, such as ecology and environmental engineering. However, the contributions from the historical sciences, including history and archaeology, are routinely undervalued. This makes little sense to me, an archaeologist and sustainability officer at a large metropolitan university, because the kinds of environmental changes we face today are similar to those people have confronted in the past. Archaeology, with its unique ability to track the long-term causes and consequences of human impacts to varied environments, can and should play a more prominent role in contemporary sustainability discourse. The contributors to *The Archaeology of Environmental Change* provide a series of compelling case studies across time and space that demonstrate unequivocally how a deep-time historical perspective can improve our prospects for a sustainable world.

The book, written broadly for both social and natural scientists and students, is divided into three sections. The first part, “New Frameworks for Interpretation,” introduces new and useful analytical constructs for studying human-environmental relationships and trajectories. Charles Redman and colleagues (Chapter 1), using data from the Hohokam region, and Sander van der Leeuw (Chapter 2), drawing on case studies from Portugal and Greece, discuss how archaeologists might engage allied disciplines using resilience theory and the concept of panarchy. This approach views change as episodic, patterns and processes as discontinuous, and ecosystems as having multiple (and sometimes competing) equilibria. From this perspective, resource management must be flexible to account for an ever changing ecosystem. Vernon Scarborough (Chapter 3), comparing datasets from the lowland Maya region and the Basin of Mexico, makes the broader point that we need to explore and test other, non-Western, concepts and ideas about economy and technology to enhance our modeling capabilities. In other words, just because archaeologists are not ethnographers does not mean that we should shy away from exploring the productive potential of local ecological knowledge for enhancing archaeological explanation.

Part two, “Multi-dimensional Explanations,” highlights the complex relationships that farmers have with cultivated landscapes, and how both person and land adapt to the push and pull of culture and nature. One example is the work by Nicholas Dunning and colleagues in the Maya region of Mesoamerica (Chapter 4), which demonstrates the inextricable interplay of worldview, values, and beliefs that structure agricultural decisions and land tenure systems. Tina Thurston (Chapter 5), also concerned with issues of land management dynamics, examines anthrosol data from marginal farming environments in north-west Europe to uncover the long-term unintended

consequences of short-term cultural practices. Her work clearly demonstrates that modern technology applied to environmental challenges in the absence of historical understanding will not always be successful. In another chapter, Chapurukha Kusimba (Chapter 6) discusses the unintended consequences of iron working and ivory hunting on East African ecosystems. He argues that human societies—and the broader social and economic institutions they develop—play key roles in creating and perpetuating ecological processes. The co-evolution of such systems cannot be ignored. Finally, Brett Hill (Chapter 7) employs this approach in his study of long-term change in the Levantine, where he identifies the “hinge points” in the region’s history. Such points (or “triggering events”), including domestication and economic specialization, initiated transformations to new socionatural relationships and new adaptive cycles. Hinge points are a useful benchmark for understanding the punctuated nature of change.

In the final section, “New Answers to Old Questions,” some of the volume’s authors consider broader scales of socionatural interactions. Alan Simmons (Chapter 8), working on the Island of Cyprus, and Christopher Fisher (Chapter 10) in West Mexico, both reveal the inadequacy of simple Malthusian population-resource imbalance models to account for environmental crises. Other processes, including land use legacies and the social organization of landscape exploitation need to be factored into explanatory accounts and predictive equations. Ofer Bar-Yosef (Chapter 9) examines humans’ role in climate change in the Near East, demonstrating that we need to incorporate multiple timescales into our analyses—from individual and household decisions to those charted on an archaeological time-scale of centuries and even millennia. And in their diachronic examination of Hohokam/Pima-Maricopa adaptation in central Arizona, John Ravesloot and colleagues (Chapter 11) remind us that societal collapse is a social construct. We need to focus instead

on reorganization, resilience, and adaptation as processes that change the shape and context of human lives and livelihoods.

Most of the authors in this volume characterize landscapes as highly dynamic, historically contingent, and constantly emerging. The implication is that lessons learned, for instance, in the North Atlantic, are irrelevant for understanding human-environmental processes in North America. But nothing could be further from the truth! The real takeaway lessons are not the specific human-environmental outcomes, but the causes and consequences of human decision making in the face of environmental change. Archaeologists need to do a better job of getting this point across to decision makers today. In their introductory remarks to the volume, Fisher and colleagues contend that we need to develop a common language and analytical vocabulary with which to communicate to scientists in other disciplines as well as to the public. *The Archaeology of Environmental Change* represents a very positive step in this direction.

History repeats itself. Well, not *exactly*. In the closing comments to the volume, Hill and colleagues make the point that cycles of human-environmental trajectories may repeat but may not follow the same pathway or generate the same kind of trajectory. The important message here is that so called “natural” or “unavoidable” disasters are not necessarily beyond the reach of human agency. And, while archaeologists may continue to struggle with convincing bureaucrats and politicians about the value of deep-time socionatural perspectives to human sustainability, our unprecedented ability to connect and organize globally—thanks to the internet—means that we no longer have to wait around for governments to act.

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