

Imperfect Balance: Landscape Transformations in the Precolumbian Americas.

David L. Lentz, Editor. Columbia University Press, New York. 2000. \$65.00 (cloth), \$30.00 (paper). Pp. xxi, 547. ISBN: 0-231-11156-8 (cloth) 0-231-11157-6 (paper).

A long-running debate concerns the ecological management abilities of the indigenous peoples of the Americas. On one side are ecological idealists like Donald Hughes (1983), who see Native Americans as natural conservationists maintaining some form of harmony with their environments. On the other are extreme critics like Paul Martin (Martin and Klein 1984) and Charles Redman (1999), who see them as wanton, reckless destroyers. Most anthropologists would probably find themselves somewhere in the middle, but the middle ground is vast and poorly defined (see e.g. Krech 1999 and my review of that work in Anderson 2000). Until now, there was no one source to which one could turn for authoritative summaries of the actual evidence for pre-Columbian resource management.

This book changes all that. David Lentz has brought together a formidable array of experts. They have produced long, detailed, objective, and comprehensive accounts of Native American environmental management throughout the pre-Columbian Americas.

The book includes a number of general chapters as well as many specific case studies. The general chapters include one on Holocene climate changes by David Hodell, Mark Brenner and Jason Curtis; introductions to the vegetation of each region (North and Central America, Andean South America, lowland South America); and Lentz' introduction, conclusions, and work on anthropocentric food webs. The case studies comprise nine chapters on topic areas of special importance and interest. These are all authoritative summaries of large, important landscapes, written by major authorities: Emily McClung de Tapia on the Basin of Mexico, Charles Spencer on Mexico and Venezuela, Nicholas Dunning and Timothy Beach on the Maya, Charles Peters on Neotropical forests, Gayle Fritz on the Mississippi Valley, Suzanne Fish on the Hohokam, Clark Erickson on the Titicaca Basin, Terence D'Altroy on the Andes, Anna Roosevelt on the Lower Amazon. Many or all of these names will be familiar to readers of *Journal of Ethnobiology*. All provide superb and detailed coverage of vast amounts of information, much of it new and hard to find. This book thus presents, in a single volume, a unique introduction to a vast, scattered, often obscure, but vitally important literature.

As such, it defies summary here. There are dramatic new discoveries such as the enormous size and great age of the Purrón Dam in the Tehuacan Valley in Mexico (Spencer's chapter). There are sharp challenges to conventional wisdom, such as Anna Roosevelt's critique of the "Pleistocene refugia" theory of Amazon forests. We are introduced to mind-bending new landscapes such as the vast seasonal wetlands, dry forests, and montane bare-rock fell-fields of tropical South America (James Luteyn and Steven Churchill's chapter on South American vegetation).

More important is to say something about the implications of the book for the broad and facile theories noted above. This book proves, in overwhelming detail, that America's pre-Columbian inhabitants were neither harmonious naturalists nor wanton wreckers. They were expert, thorough, and pertinent landscape man-

agers. They changed whole ecosystems. They carried out major engineering works including canals, dams, ridged field systems, and terracing of mountain ranges. They deliberately and profoundly affected the distribution and abundance of hundreds (if not thousands) of plant and animal species. They domesticated many of these, developing an incredible wealth of crop varieties.

Unsurprisingly, it was the high civilizations that did the most extensive landscape manipulation. They were perhaps especially industrious in drier habitats, where building irrigation works was vital. Yet, many simpler societies, and many groups in wet and favorable climates, also created major works. In some cases, notably in and near the Eastern Andes, we remain in profound ignorance of these creators — we do not even know whether they had a “civilization” or not.

It seems clear that the Native peoples were, in the main, good managers. They got what they wanted: food, fiber, shelter, and security. They did this through careful, fine-tuned control of a large array of resources. They conserved; whatever their ancestors may have done to the Pleistocene megafauna, the peoples described in this book exterminated few if any species. They did not ruin their environments. The highly colored scenarios of writers such as Redman (2000) do not hold up. Redman argued that the Hohokam fell because they allowed their irrigation systems to salt up and silt up, but Fish presents a more complex picture, allowing for long-term Hohokam survival and the possibility that the “fall” was late and somewhat mysterious. Redman also alleged that the Classic Maya civilization declined through overuse of land, but evidence presented in the present book implicates drought at least as strongly. Very possibly, drought was particularly devastating to a system already thinly stretched.

These scholarly consequences have real-world consequences. A debate in *Conservation Biology* (Schwartzman et al. 2000, Terborgh 2000, and following comments) shows what the stakes are. Schwartzman and his coworkers see indigenous Native Americans as good managers, and thus wish to leave them in charge of their traditional lands. Terborgh sees much worse management, and, though he sees indigenous land tenure as a moral imperative, he also feels that large and inviolate sanctuaries must be created if biocomplexity is to be conserved. Both sides can adduce considerable evidence for their positions, but neither can make a really convincing case. Lentz’ collection provides the necessary base on which to build, if we are to seek evidence adequate to permit informed planning.

The saddest lack in this book is the voice of the long-dead managers. Current evidence suggests that these farmers, engineers, and rulers needed, and had, a moral and religious shell around their ecological and technical applications. Otherwise, they would have succumbed to the perennial problem of collective action: they could not have motivated their people to work together for the common good. We have historic and ethnographic evidence bearing on the point in a few cases — notably the Andes, as reviewed by Erickson and D’Altroy. But how can we look into the minds of the Hohokam or Cahokians, let alone those of the nameless and mysterious managers of the *sabanas* of Bolivia? Left with their anonymous works, we can only reflect on the words of Ecclesiasticus:

“Let us now praise famous men....

“And some there be, which have no memorial; who are perished, as though they had never been; and are become as though they had never been born; and their children after them.

“But these were merciful men, whose righteousness hath not been forgotten....

“Their seed shall remain for ever, and their glory shall not be blotted out.”

(Ecclesiasticus 44:1, 9-10, 13)

E. N. Anderson,
Department of Anthropology
University of California Riverside

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