

People, Plants, and Landscapes: Studies in Paleoethnobotany. Kristen J. Gremillion, editor. University of Alabama Press, Tuscaloosa. 1997. Pp. xviii; 271. \$29.95 (Paperback) ISBN: 0-8173-0827-x.

One of the more inexplicable aspects of archaeology this century is that, despite growing recognition of the importance to human societies of plant resources, surprisingly little emphasis has been placed on the recovery and interpretation of those remains by archaeologists. There have been notable exceptions, of course, as represented by the work of Braidwood, Yarnell, Flannery, Watson, and others, and by the 1970s, paleoethnobotanical studies were regularly being conducted by a small number of practitioners across North America to produce an unprecedented wealth of information on prehistoric plant use. Yet full acceptance that paleoethnobotany as a vital component of archaeology has been surprisingly slow, and in some respects, it has been ghettoized. Despite its immense potential to contribute information pertinent to both Big Questions (e.g., where and when were plants first domesticated?) and those of more local significance (e.g., what plants were eaten at this site?), the recovery and analysis of samples for paleoethnobotanical sampling are still not routinely practiced at most archaeological sites.

This well-edited volume offers a strong challenge to this situation by demonstrating how clearly paleoethnobotany can illuminate aspects of past settlement, subsistence, and economic practices otherwise inaccessible. No less importantly, it offers new ways of thinking about the relationships that have existed between people and the dynamic landscapes they occupied, with each influencing the other.

The collection is derived from a Society of American Archaeology symposium in honor of Richard Yarnell, a pioneer in this field, who in 1992 received the society's Fryxell Award for Interdisciplinary Research. Most of the contributors are former students or colleagues of Yarnell. United under the banner of human ecology, the authors explore two central themes: first, the process by which paleoethnobotany has evolved into a multidisciplinary entity, armed with formidable tools (e.g., electron microscopy, accelerator dating), and second, the development of a set of robust explanatory tools that include the integration of ecological and evolutionary theory. This approach gives this collection a coherence seldom found in *festschriften*; indeed as Bruce Smith notes in the Foreword, "There is much in this book...that would please Yarnell far more than any glowing praise for him."

In both her well-crafted preface and introduction, Gremillion sketches the development of paleoethnobotany in North America, and how it has gradually shifted from description to explanation, with impetus provided by Julian Steward, Leslie White, and others. This short essay identifies several major themes in the history of the discipline, and thus provides a firm base for the chapters that follow.

The first part of the collection, "The Archaeological Record of Plant Domestication and Utilization," explores the evidence for the development of food production primarily in eastern North America, which is now viewed as an independent center of plant domestication. Patty Jo Watson begins with a succinct summary of the development of modern paleoethnobotany in the Near East, East-

ern Woodlands, and Southwest, which has "proceeded at different rates and along different trajectories" in each region. Kristen Gremillion reexamines a collection of plant remains originally recovered in Kentucky in the 1930s, using crop morphology and site chronology to explain increases in seed size of sumpweed, chenopodium, and other species through domestication. An amazing collection of five charred bags of seeds stored in an Arkansas rock shelter (also excavated in the 1930s) is investigated by Gayle Fritz, whose analysis of cucurbits, sunflower, and sumpweed from the cache indicates that plant husbandry was already well developed by 3000 years ago. Additional evidence for the indigenous development of *Cucurbita pepo* (italicize) is further explored by Wesley Cowan's study of seed morphology in archaeobotanical samples from Kentucky. The final paper in this section is by Gary Crawford, whose study of the ecological processes of domestication in Jomon Japan provides new insights into human influences on local landscape development.

The second part of the book, "Plant Resources, Human Communities, and Anthropogenic Landscapes," focuses on the cultural and ecological contexts of plant domestication and management. Margaret Scarry and Vincas Steponaitis examine changes in agricultural strategies associated with the rise the late prehistoric Moundville (Alabama) polity; paleoethnobotanical evidence there suggests that crop production strategies, such as communal fields, may have served as a type of risk management, while also influencing local landscape development. The application of evolutionary ecology models to understanding the transition from foraging to farming is detailed by Bruce Winterhalder and Carol Goland, who evaluate diet breadth, risk analysis, and production efficiency. Their study compliments Paul Gardner's predictive modeling of nut productivity and harvesting for Eastern Woodlands foragers, whose response to processing costs and periodicity of mast yields may have prepared them for post-foraging food production. The remaining two chapters utilize historical sources to explore the relationship of people to plants at very different scales. Gregory Waselkov relates a shift in Creek and Seminole agricultural field location to the development of the 18th century market economy, while Julia Hammett offers a sweeping survey of North American aboriginal plant management strategies, correlated to the geographic distribution of economically important plant families and agricultural intensification during the late Holocene.

What shortcomings the volume has are minor. All but one of the chapters focus on eastern North America, leaving Crawford's valuable study on plant domestication and anthropogenesis in Jomon Japan geographically isolated and not as well integrated into the collection as it should be. In fact, a different organizational scheme might have reduced the sometimes awkward feel of seemingly dissimilar chapters bound together within Parts 1 and 2, although each addresses the general issues used to define each part. There is also considerable difference in the length of chapters, leaving one wishing for a little more from Watson (13 pages) and a little less from Winterhalder and Goland (38 pages). Still, these are more preferential than problematic points. The volume is well illustrated and indexed, and the use of historical maps and paintings in two final chapters particularly informative.

This collection ultimately works well at two complimentary levels, the first concerned with what we now know about past use of plant resources, and the second with how we know what we know. It therefore serves as a valuable resource for both students and scholars interested in the dynamic nature of past human-environment interactions, and compliments other recent volumes, particularly Hastorf and Popper's *Current Paleoethnobotany* (1988).

Paleoethnobotany has become an indispensable component of contemporary archaeology, yet many remain unaware of its potential. In a letter cited by Gremillion (p. 23), William Webb wrote to botanist Volney Jones in 1935: "I have stirred through Indian beds and shoveled out bushels of 'trash' which in my ignorance I regarded as valueless. I now know that I have probably destroyed a large body of valuable information." This volume reminds us of how valuable that information may be.

George P. Nicholas
Department of Archaeology
Simon Fraser University/Secwepemc Education Institute
Kamloops, British Columbia V2H 1H1