

## PREFACE

I wrote the original version of *Paleoethnobotany: A Handbook of Procedures* (1989, Academic Press) following the outline of a class I taught every other year or so at the University of Missouri. The class was not just aimed at aspiring paleoethnobotanists, but at a more general audience of students interested in learning about ancient plant use. In time the class became one of the methods offerings for majors, and I added readings from the literature that illustrated how macroremains, pollen, phytoliths, and, eventually, starch could be used to address interesting research questions. Those readings were often challenging, but it became clear to me that students who put the effort into reading the graphs and tables and who thought about whether the conclusions made sense from those data not only learned something about past plant-people interrelationships, but about the process of drawing robust inferences as well.

My goal in this book, *Case Studies in Paleoethnobotany: Understanding Ancient Lifeways Through the Study of Phytoliths, Starch, Macroremains, and Pollen*, is to focus explicitly on the process of interpretation in paleoethnobotany—in essence, guiding students, practicing archaeologists, and paleoethnobotanists alike through the process of reading those graphs and tables and evaluating those research results. Paleoethnobotanical inference is increasingly sophisticated and contributes to our understanding of the past in ways that may not be apparent outside the field or to all practitioners. I will illustrate some of these contributions through five issue-oriented case studies that feature robust and innovative approaches to interpreting past plant-people interrelationships. A theme that runs through all the case studies is the strength of using multiple lines of evidence to address issues of significance.

To set the stage for the case studies, the book begins in Part I with an introduction to paleoethnobotany, the study of plant-people interrelationships through the archaeological record. In Chapter 1 the reader is introduced to the paleoethnobotanical approach and to the major kinds of archaeobotanical remains—macroremains (seeds, fruits, underground storage organs, wood), pollen, phytoliths, and starch grains—and how they are studied. Chapter 2 discusses how these plant remains become deposited and preserved in archaeological sites and environmental contexts like lake sediments. Chapter 3 covers the basics of taking samples in the field, discusses sampling strategies, and describes flotation, a common method for recovering macroremains often carried out by field archaeologists. Chapter 4 describes the ways in

which paleoethnobotanists examine and draw inferences from the results of their studies of macroremains, pollen, phytoliths, and starch. The reader is also guided through how to read a standard stratigraphic diagram, a common format for presenting pollen and phytolith results from environmental cores.

Part II focuses on how archaeobotanical data are interpreted and used to address research questions of interest to archaeologists, paleoethnobotanists, and other researchers. Five case studies illustrate how paleoethnobotanical data are interpreted and integrated:

Chapter 5: Investigating Neanderthal Lifeways Through Paleoethnobotany

Chapter 6: The Paleoethnobotany of Maize: Understanding Domestication and Agriculture

Chapter 7: Archaeobotany and Insights Into Social Relationships at Cahokia

Chapter 8: An Individual's Relationship to the Natural World: Ötzi, the Tyrolean Iceman

Chapter 9: Plants and Healing/Health

I selected these case studies to illustrate the diversity of issues and questions that can be illuminated through an understanding of plant-people interrelationships. The cases range widely in time, geography, and the types of data used to investigate the issues. In each case the reader will be introduced to the issues and questions, provided necessary background information, and then presented the key findings and a sample of actual data relevant to the case. Chapter 10 presents some final thoughts on investigating ancient lifeways through paleoethnobotany.