

fascinating long-term (decades-long) experiments involving twentieth-century reconstructions of barrows and other structures. Also presented (Chapter 5) are examples from alluvial, colluvial, and wetland settings. The final chapter in this section (Chapter 6) deals with archaeological sites in inundated freshwater and coastal marine settings, perhaps not as well known to many North American practitioners.

The section on archaeological materials (Part III) covers micromorphological research on construction materials; the effects of fire on archaeological deposits, including construction materials; remnants of industrial and artisan activities; and fecal waste. And the final section of the book (Part IV) is expressly a landscape approach, which is unusual in most textbooks or reviews of geoarchaeology, all the more so given that the methodological approach focuses on the collection, preparation, and analysis of thin sections. The authors begin with “First Records of Human Activity” (Chapter 8), referring to hominin hunter-gatherers, who left relatively meager traces at archaeological sites. The next chapters apply micromorphology to subsequent technological and behavioral developments in human history, including agriculture and permanent settlements; and the section closes with discussions of the effects of postdepositional processes on the archaeological record.

Applied Soils and Micromorphology in Archaeology is an outstanding contribution to the geoarchaeological literature. Throughout the book, the authors demonstrate, largely through their own unique and extensive research around much of the globe, how micromorphology can address questions of human activity in the past. The book is well put together and very well illustrated. The printed volume includes black-and-white photographs and illustrations, but two Internet links in the book connect readers to color versions of the illustrations and a more extensive bibliography than is included in the print version of the book. The book is also well priced, and it is probably one of the best deals in geoarchaeological publications going.

Readers should be aware of two potential problems they may encounter, not really shortcomings of the book but hurdles for readers to cross. Most of the many examples presented are based on research by Macphail and Goldberg. The result is a focus on archaeological sites in Europe, particularly in the United Kingdom, with a few other examples from Asia, Africa, and the Americas. Meanwhile, as with any specialized field, there is a large amount of jargon. The volume does not define most terms used (e.g., *micromorphology*, *paleosol*). This is fair enough, considering that it is a companion to a volume with more introductory material. But readers without

extensive experience in geology or soil science should have a reference work handy. Otherwise, this book from 2018 is a very successful companion to the coauthors’ book from 1989 on micromorphology in geoarchaeology.

New Geospatial Approaches to the Anthropological Sciences. ROBERT L. ANEMONE and GLENN C. CONROY, editors. 2018. School for Advanced Research Press, Santa Fe, New Mexico. ix + 290 pp. \$49.95 (paperback), ISBN 978-0-8263-5967-4.

Reviewed by Thomas G. Whitley, Sonoma State University

The archaeological literature is currently awash in edited volumes dedicated to digital and geospatial techniques. Even before the initial widespread application of geographic information system and remote sensing methods in the 1990s, it could be argued that archaeologists have always been the “gearheads” of anthropology. It should not be a surprise, therefore, to find any number of “new technology” approaches to archaeological research published each year. In contrast, other anthropological subfields tend to have far fewer examples of research that seeks to apply and explore new methods in geospatial analysis. The exceptions are paleoanthropology, which tends to follow an archaeology-like attitude to fieldwork, and biological anthropology, with its morphological approach to skeletal analysis.

The volume by Anemone and Conroy is presented as case studies in new geospatial approaches that are intended to crosscut all of the major anthropological subfields. The collection of chapters evolved from an advanced seminar in 2016 at the School for Advanced Research in Santa Fe. As the editors state, “From this interchange of ideas came the realization that geospatial analysis in the broadest sense holds great promise for anthropological inquiry across all the subdisciplines” (p. 2). In the first chapter, they provide an overview of geographic information science (GIScience) literature in various anthropological disciplines and then summarize each case study and how they may contribute to the ongoing dialogue.

Overall, the chapters are well written and coherent, at least from the perspective of someone familiar with the terminology. The second chapter, though, does an admirable job of explaining much of what may not be known to readers not familiar with current GIScience literature. Despite the limitations of black-and-white publication, the graphics are mostly clear, though perhaps on the small side. However, several chapters

would have benefited from full-color graphics or more detailed illustrations. Rather than address each chapter individually, I would just like to point out some particularly interesting or innovative approaches presented in the volume.

Many of the analyses discussed in several chapters deal with “big data,” satellite imagery, and data mining. Unsupervised image and land classifications are techniques that have long-standing predictive utility in archaeology and which are now being applied in the search for hominid fossil or primate nesting sites. Although the techniques are not entirely new, they are being ever refined, and more powerful processors are becoming capable of handling larger and larger datasets. Like most data mining techniques, however, these approaches are not so much about answering questions of human (or hominid) behavior as mostly about finding as-yet-unidentified physical datasets.

Several chapters address techniques of 3-D modeling, through either LiDAR/laser scanning or photogrammetry. Again, this technology has been around for some time now and has been applied to enormous numbers of archaeological research projects. These approaches, though, are still in their infancy within other anthropological disciplines. One particularly interesting idea presented in this volume is the use of quantitative and geographic information system analysis on the 3-D microtopography of dental use wear. Too frequently, we think of geospatial analysis on the scale of large landscapes. However, it makes perfect sense to use the same analytical tools on much smaller scales. This kind of innovation has yet to be fully realized, but it also should have appeal for those interested in artifact use wear or rock art surfaces, for example.

Chapters 8 and 9 go further than others in exploring approaches to understanding human decision making. The first develops an agent-based model to simulate pastoral intensification, while the second uses pseudo-hydrology modeling to get at similar questions of pastoral landscape use. Agent-based modeling has now become widespread and is perhaps the technique most often applied in nonarchaeological subfields of anthropology. The application of hydro-modeling tools for something other than modeling hydrology is an excellent example of just how much we should be “thinking outside the box” with geospatial analysis.

Although each case study is engaging and interesting to read, almost all of the chapters are either archaeological or paleoanthropological studies. The techniques described *do* have applications in other areas of anthropology or related research, such as cultural anthropology, ethnology, human geography, and linguistics. Those applications, however, are not

explicitly explored in this volume, only implied. This is not particularly a problem for an archaeological or paleoanthropological audience, but it falls short of fully reaching across the disciplinary “silos” or improving the limited scholarly communication the editors decry. I think that this volume, though certainly worthy of a place on my archaeological bookshelf, is still unlikely to turn the ethnologist in the office next door into a “gearhead” like me.

Early Human Life on the Southeastern Coastal Plain. ALBERT C. GOODYEAR and CHRISTOPHER R. MOORE, editors. 2018. University Press of Florida, Gainesville. xvii + 412 pp. \$125.00 (hardcover), ISBN 978-1-6834-0034-9.

Reviewed by Joseph A. M. Gingerich, Ohio University

In recent years, several new volumes on the earliest inhabitants of eastern North America have been published. These volumes, and this new book, have dramatically expanded our knowledge of Paleoindian-Archaic populations in the eastern United States. This 15-chapter volume focuses on some of the important questions surrounding early colonization and the spread of populations in the American South. If you are interested in the first ~7,000 years of North American prehistory, you need this book.

In Chapter 2, Goodyear and Sain provide a much-awaited description of some of the reported pre-Clovis artifacts at Topper. Their chapter provides little doubt that artifacts made by humans are present in levels predating Clovis materials at the site. I think that the artifacts, context, and integrity are better demonstrated within the layers immediately beneath the well-defined Clovis layer closer to the hilltop, but readers may refer to Sain’s dissertation (2015) for details about the entire pre-Clovis assemblage.

In Chapter 3, Ensor discusses Levallois-like technology at sites in Alabama. While researchers have reported a few cores that demonstrate Levallois-like techniques (mostly for descriptive purposes) at some Paleoindian sites, no site is known to have a large number of Levallois-like artifacts. The figures show several cores with classic Levallois removals/preparation, but I agree with Schuldenrein (p. 321) that a more comprehensive technological discussion would be helpful. Ensor’s chapter provides a baseline for future comparison of similar artifacts.

Chapter 4 by Hemmings and colleagues does an excellent job of describing the excavation methodology at Vero Beach in Florida. Although the stratigraphy is now better understood, they have yet to find