to households and communities. Further work on both issues, among others, will do much to extend our understanding of violence, in all of its various forms, deep into the past.

Of the numerous books published on warfare since it became a major focus of archaeological study about a quarter century ago, this one is among the first that should be read. Kim and Kissel's evolutionary perspective offers us much to think about, and in providing it they widen our horizons about what has been and continues to be a pervasive feature of human existence: warfare.

Handbook of Evolutionary Research in Archaeology. ANNA MARIE PRENTISS, editor. 2019. Springer, New York. xii + 443 pp. $139.00 (hardcover), ISBN 978-3-030-11116-8.

Reviewed by Christopher Morgan, University of Nevada, Reno

A little over two decades ago, James Boone and Eric Alden Smith (*Current Anthropology* 39:S141–S173) asked, "Is it evolution yet?" as a critique of evolutionary archaeology's (Dunnell, *Advances in Archaeological Method and Theory* 3:35–99) decidedly selectionist and mechanistic means of applying evolutionary principles to archaeology; Boone and Smith argued instead for an evolutionary-ecological approach to archaeology's study of cultural evolution. Readers of this new edited volume might ask the same question, but in a different light: To what degree does twenty-first-century archaeological research capture the nuances and complexity of modern evolutionary method and theory and apply them, in meaningful and robust ways, to archaeological and anthropological research? The 20 chapters in the 400-plus pages of this book provide a complex set of answers to this question that are essential not only to the more evolutionarily minded among us but also to anyone who is serious about understanding people and the development of their diverse forms of behavior through time.

After a brief introductory chapter, the volume proceeds with four parts: there are four chapters on microevolution, five on macroevolution, seven on human ecology, and three on cognitive archaeology. The first part, on microevolution, addresses fundamental problems associated with integrating biological and cultural evolution, accounting for innovation in the context of different modes of cultural transmission and identifying processes of natural selection using archaeological data. The strongest chapter in this part, by Anne Kandler and Enrico Crema, applies neutral theory—the idea that most genetic variation (and, by extension, cultural variation) does not affect fitness—to a multi-iterative quantitative assessment of cultural diversity. The second part of the book, on macroevolution, focuses on evaluating how Sewall Wright's (*Proceedings of the Sixth International Congress on Genetics* 1[8]:355–366) concept of fitness landscapes might be used as more than evolutionary metaphor, exploring how cladistics and other phylogenetic techniques can be used to identify evolutionary relationships, and deconstructing the relationship between historical and evolutionary processes. Erik Gjesfjeld and Peter Jordan's chapter on Bayesian modeling is particularly intriguing, in that it shows a very powerful and statistically robust way of elucidating historical and evolutionary relationships from fairly simple and straightforward archaeological data.

The third section, on human ecology, is the longest and most diverse. Its chapters run the gamut from zooarchaeological, botanical, and technological applications of human behavioral ecology (HBE) to treatments of costly signaling, population ecology, and niche construction. Readers interested in the debate between HBE and niche construction theorists on how best to explain human behavioral evolution in an ecological context will find some fresh new voices seeking more to synthesize than polemicize this debate. The chapter on population ecology, by Cedric Puleston and Bruce Winterhalder, is particularly engaging in that it shows how quantitative modeling can help develop surprisingly counterintuitive hypotheses (e.g., food storage is a risky strategy that makes populations more rather than less susceptible to famine) that are eminently archaeologically testable.

The fourth and last part of the book, which includes chapters on cognitive archaeology, tends more toward semiotic speculation than evolution and archaeology. Many of the ideas here consequently may not bear fruit in the long run, but some may (and may therefore be very important), making this section critical to exploring new avenues for evolutionary research in archaeology.

Clearly, this volume covers a lot of ground at considerable depth. Readers without a good understanding of Darwin, the modern evolutionary synthesis, economic modeling, statistics, and ecological principles will likely struggle with at least some of the material. In a class setting, it consequently might pair well with more fundamental texts or edited volumes. Other readers may struggle with at-times inconsistent terminology and repetition (a problem common to many edited volumes), as well as the occasional minor factual error. Putting these quibbles aside and answering the

https://doi.org/10.1017/aaq.2020.60 Published online by Cambridge University Press

question posed at the beginning of this review, informed and careful readers of this volume should gain an excellent understanding of the current status of evolutionary research in archaeology in all its contradictions, complexity, and insight. Active researchers may derive novel ideas, questions, and methodological approaches from its pages. Most importantly, this volume goes a long way toward dispelling the notions that archaeology is not actively engaged with seriously addressing the complexities of evolutionary theory, that evolutionary research is simplistic or overly deterministic in explaining human behavior, and that archaeology and evolution are poorly suited to address agency, cooperation, creativity, and social organization's role in the development of culture. In short, although substantial challenges remain in terms of integrating archaeology with evolutionary theory, this compelling volume indicates that this approach proves extremely robust in explaining the development of human behavior.

https://doi.org/10.1017/aaq.2020.60 Published online by Cambridge University Press