

commitment. Links between knowledge and location are not easily built, but the rewards of creating and maintaining them are illustrated here.

The editors should be congratulated for bringing together a group of papers with such consistently high quality. The contributors have presented useful insights of many kinds, including theoretical considerations of dialectics and scale (William Marquardt), the contribution of heterarchy to feminist archaeology (Janet Levy), collective action theory and the history of archaeology (T. L. Thurston), Mongolian funerary monuments as a means of editing the landscape (Erik Johannesson), and dialectical relationships between hunter-gatherers and agriculturalists, elephants, and cattle near Great Zimbabwe (Anneli Ekblom, Paul Lane, and Paul Sinclair). Throughout, the volume has high production values—including well-reproduced images, maps, and figures—and a general lack of technical errors.

In combination with its comprehensive bibliography, *Historical Ecologies, Heterarchies and Trans-temporal Landscapes* could be used as a reader's companion to this growing and improving transdisciplinary literature. It could anchor an upper-level course on environmental anthropology or archaeology, but it should certainly be read more widely. Historians, ecologists, economists, sociologists, climate scientists, ethnobotanists, cultural anthropologists, historians of science, and political scientists could find it useful to bring depth to a variety of courses. Although the book could be used by selecting individual chapters (the section on the European Iron Age, for example), doing so would miss out on the analytic power of the historical ecology approach or of heterarchy as a framework. The foreword by William Balée and the afterword by Crumley help to bind this work together. *Historical Ecologies, Heterarchies and Trans-temporal Landscapes* shows how Crumley's perspectives on historical ecology and heterarchy have increased in relevance since she helped spin those two threads into a single cord.

*The First Farmers of Europe: An Evolutionary Perspective.* STEPHEN SHENNAN. 2018. Cambridge University Press, Cambridge. xviii + 253 pp. \$105.00 (cloth), ISBN 978-1-108-42292-5. \$34.99 (paperback), ISBN 978-1-108-43521-5. \$28.00 (e-book), 978-1-108-39730-8.

*Reviewed by* Alasdair Whittle, Cardiff University

I first read this fine study when it came out in 2018, and when invited in the summer of 2020 to review it for

this journal, I read it again—both times with profit and enjoyment. I was struck again by the enormous range of literature covered and the wealth of thought-provoking ideas. The outcome of an interest in the big scale and grand narrative—unfashionable in some quarters—and based on a string of successful big-data projects, *The First Farmers of Europe* is well written, immaculately proofed, and supplied with good maps. Its narrative proceeds at a good, readable pace.

I see the book as working at three levels. Framing everything is a remarkably wide-ranging survey of the initial spread of the Neolithic way of life, region by region: the Levant and Anatolia in the Near East, northern and western Europe, and the central and west Mediterranean. Key sites and key scientific studies—especially recent aDNA projects and, to some extent, isotopic analyses—are briefly presented, region by region. The literature cited looks very up-to-date (up to 2017). Although the flow of new aDNA articles has continued apace since then, I do not see the latest work as contradicting the arguments of this book.

Stephen Shennan's key concern is with the conditions in which agriculture spread. Once into central and western Anatolia, the big story is of migration, mostly, it is argued, on a big scale, and generally rapid, although it is punctuated here and there by discernible pauses. (For this reviewer, it is annoying that the chronology is mostly presented in BP rather than cal BC terms, and with a lot of eyeballed and generalized date estimates.) Broadly speaking, those of us who argued for the indigenist case for the adoption of agriculture in Europe have been proven wrong, but the scale of contribution by indigenous communities to the processes of change in question has yet to be worked out in detail, region by region, and integration or fusion models could still usefully be explored.

A lot of diversity is elegantly documented, which should alert us to historical contingency and independent agency. Along the way, there are all manner of stimulating discussions of more detailed issues—for example, ditched enclosures in the LBK (the early Neolithic of central and western Europe) and southern Britain, swiddening, and the possible leading role of the Orkney Islands in the development of the Late Neolithic in Britain and Ireland. Perhaps unavoidably, there is some unevenness in coverage, given that Chapters 6–8—on central and western Europe, south Scandinavia, and Britain and Ireland, respectively—follow the Neolithic sequences far later than in other regions. The discussion of individual sites and contexts often moves on just when it is getting interesting. Overall, however, the coverage presented is a fine achievement.

At a second level, Shennan relies heavily throughout on radiocarbon dates as a proxy for estimates of population. The headline in this dimension is of an initial boom in human numbers, followed by subsequent declines and even bust. The big story is followed in most detail for the more westerly regions covered in Chapters 6–8, and we are left to imagine what may have been the fate in more detail of more easterly Europe, the Mediterranean, and the western part of the Near East. Although not the only researcher working to drag demography back onto center stage, Shennan has played a key role in that argument, greatly to his credit. Despite the fact that the big data approach has its advantages, like other critics, I worry that the proxy method makes too many assumptions, that it may basically reproduce the shape of the calibration curve (which is shifting in detail with the publication of IntCal20, released after the publication of Shennan's book, of course), and that it rides roughshod over subtler questions of scale, duration, and rapidity. In my view, we need now to keep demography firmly in focus but work at it through the hard labor of individual, local, and regional studies.

Underpinning all this—the third level—is an evolutionary perspective. Right at the start, two big claims

are made: first, that there was a causally interrelated nexus of growing dependence on plant resources, increasing sedentism, and increasing birth rate and population; and second, that farming spread “because it enabled people to be reproductively successful by colonizing new territories” (p. 1). I think that few would dispute the range of factors summoned in the first claim. But is there not much more to be said about agency, choice, and values than allowed in the second, massively generalized claim? It is not clear to me how the perceived declines and population bust are compatible with the supposed evolutionary advantages of population increase and intergenerational transmission of knowledge. The opening chapter explores a range of interesting but unfamiliar technical evolutionary and demographic terms, although these are largely forgotten in the subsequent narrative chapters. Shennan's claim on the final page that historical contingency and general processes are compatible must also be open to further question.

My money is on now refining the detail of specific regional narratives to accommodate and explore the diversity of practice evident from region to region, but I do not set aside the value of the big picture—to which this book has made an invaluable contribution.