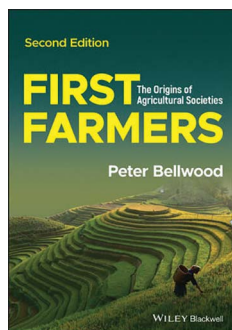




Book Reviews

PETER BELLWOOD. 2023. *First farmers: the origins of agricultural societies* (second edition). Hoboken (NJ): Wiley; 978-1-119-70634-2 paperback \$49.95.



Peter Bellwood, widely known for several outstanding and award-winning books on prehistoric human cultures, has recently published the second and revised edition of his highly acclaimed *First farmers: the origins of agricultural societies*. The first edition of this book, published in 2005, was already impressive in its disciplinary synthesis and global coverage of the multidisciplinary subject, combining archaeological, genetic and linguistic knowledge. The breadth and depth of this revised and updated edition can be seen not only in the 750-plus new references, but also in the new design of Chapters 10 and 11. These discuss the result of technological advances in ancient DNA analysis and computational linguistics

over the past two decades, which have led to a change in the way scientists and the wider public now think about the role of migration in past population and social dynamics.

A central theme is: “In order to approach what often appears to be a debate in which specialists all talk across each other, concerned only with data from their own discipline, this book is framed around a multidisciplinary hypothesis. The *early farming dispersal hypothesis* postulates that the spreads of early farming lifestyles were often correlated with prehistoric episodes of human population and language dispersal from agricultural homelands” (p.2). Agriculture and food production significantly influenced the development of language families and human migration during the stable and warm postglacial climate of the Holocene, making the role of migration in culture formation and change a core element of the book.

In 12 chapters, mostly geographically organised, Bellwood presents a comprehensive overview of the current state of research on early food-producing societies around the world and reflects on their distribution dynamics by describing various cultural and biological elements based on the fields of archaeology, comparative linguistics and palaeogenetics.

A brief review cannot do justice to a work with such a wealth of information and one is forced to confine oneself to mentioning a few individual, and certainly subjectively chosen, aspects. Starting with the historical research account (Chapter 2), Bellwood provides an overview of how archaeology has elaborated the concept of the neolithisation process, including archaeobotanical, zooarchaeological and biomolecular components of domestication (Chapter 3), alongside other features of the ‘Neolithic demographic transition’ (Chapter 2), which led to increased territorial ownership and conflict. The author does not omit any of the important concepts that account for the variability in the mode and rate of development of food-production systems. The complex motivations, social and cultural factors in the emergence of agriculture, as well as contemporary threats to minorities, are presented in a

close-up view of three different types of hunter-gatherer societies (Chapter 3). An important message between the lines is the endless loop between population growth and the environment as the root cause of all humanity's problems, starting with the advent of agriculture. Resource scarcity as a result of population growth and environmental degradation is the impetus for human populations to seek new land, which ultimately leads to new environmental consequences.

The content equivalent of the archaeology of early agricultural systems and their dispersals in Chapter 2 is Chapter 9, which introduces the reader to what languages can and cannot tell us about population and cultural movements. Bellwood discusses methods used in linguistics and computational biology to study language evolution and relationships between languages. Grouping large, widespread human populations with a common linguistic ancestry offers an advantage over archaeology and ancient DNA in terms of internal coherence and greater distributional completeness. However, the almost infinite number of variables that influence the process of language emergence, spread and change adds complexity to its reconstruction.

The spread of farming populations from the Fertile Crescent to Europe, the steppes north and north-east of the Black Sea, and India (Chapter 4) is deeply linked to the origins of Proto-Indo-European speakers in the Fertile Crescent who migrated to Europe, the Middle East, and South Asia (Chapter 10). The reader is given a thorough introduction to the two westward expansions, which took about 1500–2000 years. These migratory trajectories are enriched by a discussion of the possible spread of languages by Neolithic migrants from Anatolia and the Balkans (*c.* 6000 BC) or later by equestrian pastoralists from the Pontic steppes (4500–2500 BC), with the Anatolian Indo-European migrants being more likely, as supported by available DNA studies. The even greater complexity of the eastward spread of food-producing systems into Baluchistan (Chapter 4), the Indus Valley, the fertile Gangetic plains and peninsular India is reflected in the approximately 4000 years it took for this process to cover the same distance as from the Fertile Crescent to Europe. It is also apparent in the multidirectional nature of the various migratory patterns, which resulted in significant cultural and genetic interactions, producing remarkable instances of prehistoric cultural exchange and fusing the Near Eastern crop package with that of the Austroasiatic-speaking rice farmers from further east. The chapter also offers myriad parallels with contemporary scenarios of collapse, including climate change, pandemics, warfare and excessive cropping cycles. A key finding of the Neolithic dispersal model is the increasing cultural diversification or 'continual divergence' and splitting into small groups over the course of the Neolithic dispersal (p.84), a process that can also be seen as an essential feature of contemporary migratory processes.

Early food-producing systems in Africa (Chapter 5) are even more environmentally and climatically determined than those of other geographical regions, to mention only a few keywords such as the 'Green Sahara', desertification and the range of the tsetse fly, which led to different migration patterns of the various domesticated species, to independent zones of domestication and to the cultural divide along the Nile valley at about 24° N latitude. Some background arguments for the spread of Bantu cultures from the rainforest to the south are given, and their genetic and computational evidence is developed later in Chapter 11.

Important early food-producing sites and the East Asian Neolithic crop repertoire of broomcorn millet in the Liao Valley, foxtail millet in the Yellow River Valley, and japonica rice in the Yangtze Valley and southern China emerged between 7000 and 6500 BC, which is *c.* 2000 years later than their counterparts in the Fertile Crescent (Chapter 6). Increased population growth after 5000 BC was followed by movements to other regions along at least two axes of expansion, one from the central Yangtze area and the other along the coast and into Southeast Asia. Bellwood provides a detailed research account of the biologically complex cultural history of people of Southeast Asia and Oceania (Chapter 7) and their food-production systems. Suitability for rice cultivation varies across mainland Southeast Asia, with the highest population densities in non-equatorial monsoon regions where rice can thrive. Indigenous equatorial populations in Malaysia and Indonesia are small and often dependent on tuber and tree crops, as in New Guinea, which was a major contributor to the emergence of cultivated bananas, yams and sugar cane, highlighting the importance of Papuan horticulture in the spread of these crops throughout the Melanesian region.

The major regions of the Central Andes, the south-western Amazon, northern South America, Mesoamerica and the Eastern Woodlands and the Southwest in North America contributed to the domestication of a very large number of important crops over a long period of time (Chapter 8). The development of maize in Mesoamerica, which took about 5000 years, is a good example of the complexity of different genomic and cultural pathways across different geographical zones. Phytolith evidence for actual domestication dates to around 7000 BC. Maize moved from Mesoamerica to Panama *c.* 6000 BC, and genetic evidence suggests two independent instances of incipient domestication, leading to significant evolution of the plant. By 3500–2000 BC, improved varieties of maize returned to Mesoamerica. The crop was also introduced into the North American's Southwest shortly before 2000 BC, probably through high-altitude population movements and the adoption of agriculture by both migrating Uto-Aztec-speaking farmers and indigenous hunter-gatherers. Bellwood provides many other examples of how food-production systems are related to the ethnolinguistic prehistory of different regions.

Chapters 10 and 11 are the ones that Bellwood himself considers central, as he refers to them frequently in almost all preceding chapters. Although these two chapters are certainly a difficult read, especially for readers who have not previously studied linguistic and genetic phylogenies in depth, Bellwood makes the latest research accessible to the inexperienced reader and provides an ideal platform for those who wish to delve deeper into the subject.

First farmers is a *vademecum* that is not only for archaeologists. Combining archaeology in its broadest methodological package, comparative linguistics and the recent explosion of knowledge in population genomics, Bellwood successfully constructs a narrative of global human population history in the early Holocene. He provides a deep and fundamental insight into human migration, which is increasingly important for a comprehensive understanding of historical, cultural, economic, social, political and environmental dynamics. Such knowledge is important not only for academics and the general public, but also for policymakers to enable informed decisions and develop strategies that promote inclusivity, sustainable development and the wellbeing of diverse populations. In addition, the work is an essential textbook for all students of archaeology and its

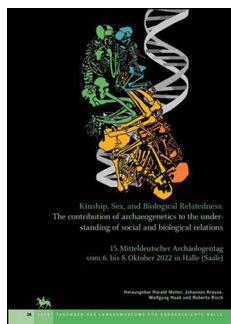
pedagogical value lies not least in providing a better understanding of the deeply rooted human quest for mobility.

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HARALD MELLER, JOHANNES KRAUSE, WOLFGANG HAAK & ROBERTO RISCH (ed.). 2023. *Kinship, sex, and biological relatedness: the contribution of archaeogenetics to the understanding of social and biological relations* (Tagungen des Landesmuseum für Vorgeschichte Halle 28). Langenweißbach: Beier & Beran; 978-3-948618-66-7 hardback €59.



There must be few engaged in archaeology who are not now familiar—even in the most cursory fashion—with the outpouring of contributions on ancient DNA that have appeared over the past decade, and certainly since the appearance of David Reich’s popular introduction to the subject (Reich 2018). These contributions have provoked a range of reactions, not only scientific but also political and ethical (e.g Hakenbeck 2019; Blakey 2020). Without question, the analysis of ancient DNA has the potential to make significant contributions to the *study of archaeology*. However, some of the more hyperbolic statements that this development has elicited—regarding ‘revolutions’ and ‘fundamental transformations’ to our

subject—are factually questionable, and very much hang on the straw-man critiques of past paradigms and practitioners that we might wish to throw in front of the train of technical progress.

While Kristian Kristiansen (2022: 18–19) has defined a ‘two cultures’ problem—contrasting humanistic and scientific archaeologies—with regards to this mixed reception, other tensions are also apparent. For example, whether one views the tempo and mode of our archaeological entities to be uniquely archaeological (cf. Clarke 1968: 13–15), or considers the archaeological record more akin to the ethnographic present but with ‘stuff’ missing. This tension has equally coloured how ancient DNA studies have been received, especially where the focus has been on large-scale historical processes and utilised ‘archaeological cultures’ as the most relevant unit of comparative analysis. All this matters precisely because, given the contributory potential of ancient DNA, most archaeologists will likely come to the subject with some inherent ‘baggage’ regarding what we might hope for, and expect from, its contribution. The book under review here goes some way in offering an alternative to the mostly macro-scale normative culture model employed thus far, changing the scale of inquiry and expanding the field of interest.