

contribution of archaeomalacology to the study of major transformations in human past (e.g. the Mesolithic–Neolithic transition) and chapters illustrating the contribution of archaeomalacological work to conservation studies would also have made the book more complete. Finally, some minor issues are that the case studies speak mostly to a UK audience, as noted above, and related to this, text boxes with bibliographic references to identification manuals etc. consist almost exclusively of references most useful for work in the UK.

I enjoyed the book very much, learned a great deal from it, and was happy to hear familiar voices from the small world of archaeomalacology as well as some (to me) new voices. I would recommend the book to archaeologists working in development-led archaeology, in particular those who focus on the archaeology of the UK. I would also recommend it to students of archaeology, especially the chapters singled out above as potential classic methodological papers. These chapters are a very welcome update (and sometimes correction) to Classen's *Shells* (1998). But they are to be appreciated in combination with some of the previous literature, and some very recent publications such as the special issue on archaeomalacological methods by Jerardino et al. (2017), not as their replacement—or perhaps we need a *Molluscs in Archaeology Volume 2*.

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Pierre Pétrequin, Estelle Gauthier and Anne-Marie Pétrequin. *Jade : Objets-signes et interprétation sociales des jades alpins dans l'Europe néolithique* (Vols 3 & 4, Cahiers de la MSHE Ledoux 27, Série Dynamiques territoriales 10. Besançon: Presses universitaires de Franche-Comté and Centre de Recherche Archéologique de la Vallée de l'Ain, 2017, 1468pp., numerous b/w and colour illustr., hbk, ISBN 9782848675756)

Jade : Objets-signes et interprétation sociales des jades alpins dans l'Europe néolithique (Vols 3 & 4) represents an essential

contribution not only to our knowledge on the specific jadeite tools and ornaments, and related megalithic artworks, dealt with

in the text, but also to our understanding of the human communities that made them. The editors of this work, Pierre Pétrequin, Estelle Gauthier, and Anne-Marie Pétrequin, as well as the authors of the numerous chapters, approach, by means of a range of methods, significant questions, such as: site chronology; the roles of jadeite axes, bracelets, and rings in the social, political, and religious organization of the related communities; and the relations and interactions crafted among Neolithic communities living in diverse European regions through the sourcing, use, and exchange of jadeite artefacts. The methodological and descriptive issues dealt with in each contribution are excellent in themselves, and include the techniques deployed for the characterization and sourcing of materials, or the technological and morphological analysis of the different tools, ornaments, and decorations discussed, as well as attempts to compare distinct formal and technological traditions in different geographical areas.

The work is composed of two volumes (3 & 4), which are the continuation of Volumes 1 and 2 issued by the same publisher in 2012 under the title *Jade : Grandes haches alpines du Néolithique européen, Ve au IVe millénaires av. J.-C.*, edited by Pierre Pétrequin, Serge Cassen, Michel Errera, Lutz Klassen, Alison Sheridan, and Anne-Marie Pétrequin. The electronic version of Volumes 1 and 2 can be found in a CD at the back of Volume 4.

While reading the first two volumes would certainly help to complement the insights and data published in Volumes 3 and 4, it is also true that each pair of volumes can be tackled separately, since they cover different geographical areas. In any case, I would like to encourage readers interested in the topic and period to read all of the volumes. It is in the Introduction (by P. Pétrequin et al.) of

Volume 3 where the objectives, history and trajectory of the JADE project are outlined. This provides the reader with an overview of the huge amount of work that has been carried out over many years and that is behind this publication. When reading the Introduction the reader gets a good understanding of the information that has been compiled and the careful and systematic way in which it has been presented.

In the following chapters the different authors focus not only on the production of axes, bracelets, and disc-rings of jadeite, nephrite, or serpentine quarried in Greece (Cycladic islands), the Alps, or the Pyrenees, but also on the main quarries located in Italy, France, north-western Iberia, Austria, the Czech Republic, Slovakia, Hungary, Bulgaria, Romania, and Turkey. In short, an enormous territory to be considered when organizing an account of the origin and diffusion of the materials and techniques of manufacture deployed, the morphologies produced, and the axe motifs carved on megalithic monuments. In any case, to understand the full scope of the results presented in these two volumes, it would be advisable to consult the results published in Volumes 1 and 2, where regions not treated in the present volumes are considered.

Volume 3 is divided into four parts (Part 1, 'Les matières premières. Du jade, des jades...', Part 2, 'Production et premiers transferts de haches en Piémont', Part 3, 'Les routes du jade alpin', and Part 4, 'Bracelets et anneaux-disques', respectively), with an Introduction and a concluding chapter led by P. Pétrequin, and twenty-three chapters providing an extensive and detailed study of Alpine jadeite and Pyrenean nephrite axes and, to a lesser extent, jadeite and serpentine bracelets and disc-rings found to date. Most of the chapters collected in this volume follow the same structure, revealing the effort invested

by the authors to harmonize the content of their papers. These always contextualize the artefacts in relation to the sites where they were found, and provide an in-depth study of the morphology, the technology, and the character of the raw material, as well as a significant survey of connections and relations to other archaeological evidence found in the European region(s) covered.

In general, each chapter focuses on a specific question surrounding the artefacts documented in a certain region or site. Drawing on the results of the analyses conducted, authors evaluate the sources of raw material, the catchment areas, and inter-group connections as inferred from the relation between provenance and site distances from them. This allows authors to structure their interpretations around relationships between neighbouring or not-so-distant communities' modes of contact, and the role that the artefacts analysed played in their social and economic relations.

In particular, the fact that many of those artefacts are found in funerary contexts drives many authors to propose interpretations related to the control of their production and use by specific members of the community. This is the case, for example, in Chapter 14 by P. Pétrequin et al. 'À l'origine des routes du jade alpin : spécialisation régionale et premiers transferts', or Chapter 18 by Biró et al. 'Des Alpes à l'Europe centrale (Autriche, République Tchèque, Slovaquie et Hongrie)'. Equally, the association of artefacts with men or women is used to make inferences about social differentiation in relation to sex, as in the study of the grave goods from the sites of Zengovárkony or Alsónyék-Bataszék in south-eastern Transdanubia (Ch. 18). In this respect, it would have been interesting to evaluate whether all the burials belong to the same chronological period and, therefore, are temporally comparable, and if there are other elements related to women

or men, as we have been doing for some years now in northeast Iberia (Gibaja et al., 2017). While I understand that this is a task that surpasses the aims set by the authors, this would be a promising avenue of research for the future.

While reading Volume 3—but also Volume 4, where the chronology of decorated megalithic monuments and the sites where copper axes were documented are discussed (see below)—one perceives the difficulties faced by the different authors in ascribing accurate chronologies to the sites of extraction, production, deposition, or discard of the artefacts analysed (e.g. Ch. 30, 'Les premiers objets en cuivre au sud et à l'ouest des Alpes', by van Willigen). In the case of the extraction and production sites, the basic problem is that many of the contexts studied were excavated long ago, there are no available radiocarbon dates, and the relative chronology is too difficult to establish due to the scarcity of artefacts documented, some of them belonging to different periods (e.g. several sites mentioned in Chs 6, 13, 15, 17, 22). Therefore, the determination of the chronology of the jadeite axes from the presence of specific pottery forms or decorations, or particular lithic tools, needs to be taken with caution. The authors are so conscious of this limitation that, in some cases, new excavations and radiocarbon dating programmes have been carried out. Indeed, they are aware of the difficulty of articulating their interpretations without an accurate chronological framework (e.g. the sites of Forte or Tampa, examined in Chs 10 and 12 respectively). In some cases the results have been positive but in others less so. In any case, bearing in mind the limitations and difficulties of such an approach, relative chronologies were inferred from the raw materials, morphology, and decoration in the case of pottery, of the few associated artefacts.

Chapter 8 ('Modélisation ethnoarchéologique en Nouvelle-Guinée : techniques, modes de production et circulation des producteurs') discusses the ethnographic research conducted by Anne-Marie and Pierre Pétrequin on various communities in New Guinea in which polished axes are still produced. Even though this chapter might seem disconnected from the main theme of the book, it constitutes a valuable source to understand many of the processes described and discussed throughout the book, as well as some of the models and hypotheses proposed. Equally, even if not discussed in depth, it is frequently proposed across the book that the axes were employed for woodwork (e.g. Ch. 14, p. 323; Ch. 18, p. 454; Ch. 19, p. 467), an interpretation that, in my view, is incorrect. Ethnographic work shows that these types of axe were used for a variety of activities—a detail that has been confirmed for Neolithic axes by functional studies (Masclans et al., 2017). This is, in any case, an issue that needs to be considered in future work.

Volume 4 deals with the study of representations of axes and other ornaments, such as possible wild boar tusks, carved on megalithic monuments in France (Part 5, 'Stèles et gravures du Massif armoricain, du Bassin parisien et de Bourgogne', Chs 27–29, led by Cassen), as well as with the earliest axes made of copper in certain areas of Italy and southeast Europe (Part 6, 'Atlas des grandes haches en Europe', Chs 30–32, by van Willingen, Klassen et al., P. Pétrequin et al., and Gauthier & P. Pétrequin respectively). The volume is complemented with numerous plates and twenty-three annexes supplementing much of the information discussed across both volumes: illustrations of the axes analysed, distribution maps of the artefacts in relation to the raw materials from which they were made, their morphology, context of deposition, data from the analyses of raw

materials, and typological description of the axes and disc-rings analysed. Lastly, in the back cover there is a CD containing an inventory of European axes made of Alpine jadeite, a general bibliography, and the abovementioned PDF version of Volumes 1 and 2.

Part 5 in Vol. 4 dealing with representations is, in my opinion, highly interesting, not only because the information presented complements perfectly the data related to jadeite axes and disc-rings discussed in Volume 3, but also because of the high quality of the images, descriptions, and interpretations presented. The complexity of motifs, their interrelationships, and the variety of carved axes all give an idea of the symbolic significance that these artefacts—frequently found in Neolithic burials across Europe—had for those communities. Inevitably, interpretations about their symbolic meaning enter the domain of speculation. While ethnographic parallels are frequently used to ground hypotheses, it is important to bear in mind that contradictory proposals can also be found in the ethnographic realm.

In relation to the copper axes (Part 6, Chs 30–32), more work on their chronology needs to be done. Most of the artefacts discussed were found through old excavations that produced scarce archaeological and taphonomic information, making any chronological inference rather challenging if not impossible. This is a fundamental issue, since I think that in the absence of an accurate chronological framework it is highly risky to establish a hypothesis on the appearance of the earliest copper axes and their relationship to their jadeite counterparts.

To end I would like to underline that this is a high-quality publication, an important reference work for any archaeologist working on the period, on similar objects, or applying a similar approach to the study of other materials.

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Guido Brandt. *Beständig ist nur der Wandel! Die Rekonstruktion der Besiedlungsgeschichte Europas während des Neolithikums mittels paläo- und populationsgenetischer Verfahren* (Forschungsberichte des Landesmuseums für Vorgeschichte Halle 9. Halle: Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt/Landesmuseum für Vorgeschichte, 2017, 282pp., 40 colour and 1 b/w figure, 17 tables, hbk, ISBN 978-3-944507-27-9)

This volume is a doctoral dissertation written as part of an interdisciplinary project investigating the relationship between cultural and population change in the Middle Elbe-Saale area (MESA) of central eastern Germany. In it, the author analyses the mitochondrial DNA (mtDNA, i.e. the maternal line of inheritance) of 472 individuals dating from the Neolithic and Early Bronze Age (Linearbandkeramik/LBK to Únětice culture). The study region was chosen for its excellent preservation conditions, archaeological richness, and exceptional cultural diversity, with constantly shifting affiliations. Consequently, the declared aim is to provide a diachronic genetic survey of the area, showing fluctuations over time and interpreting these patterns in terms of the relationship between genes and cultures, possible migration events, and the contribution of different prehistoric populations to the modern genetic make-up.

The volume begins with an archaeological overview of the Neolithic, from its origins in the Near East through to a brief

presentation of the culture groups in the MESA. This chapter, while competently written, offers little that is new to an archaeological readership. Indeed, it is rather traditional in places, concerning, for instance, the dating of specific sites or cultures or the rather uncritical acceptance of notions like the Neolithic 'package'. What is missing in this section, given the aim of the study, is a discussion of the term 'culture'. Using these artificial archaeological entities as starting points clearly is a pragmatic choice, but it needs to be critically reflected in terms of the assumptions it entails for the later genetic analyses. For example, are cultures envisaged as closed breeding populations of consistent demographic size? Could culturally specific marriage rules have an impact on the genetic structure over time, and what kind of pattern has been used as the default assumption in this study?

In contrast, for the archaeological reader the chapter on the archaeogenetic background is one of the most informative in the book. It explains the mutation