

still has a long way to go, perhaps especially within the Valley of Mexico heartland, where archaeological and ethnoarchaeological studies of regional settlement patterns, provincial centers (e.g., Xaltocan, Otumba), stylistic and compositional studies of ceramics and obsidian that have provided important new insights into exchange patterns, and investigations of traditional agricultural and artisanal activities now provide an excellent archaeological research foundation, but one that is rapidly disappearing in the face of the overwhelming forces of destruction in recent decades of the archaeological record in the field and in stored collections, and in lifeway transformations of living people with linkages to the prehispanic past.

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JADE: Grandes Haches Alpines du Néolithique Européen, V^e au IV^e Millénaires av.
J.-C. Pierre Pétrequin, Serge Cassen, Michel Errera, Lutz Klassen, Alison Sheridan and Anne-Marie Pétrequin, eds. Besançon: Presses Universitaires de Franche-Comté, 2012, 1,520 pp. €120.00, cloth.

It is increasingly rare, in these days of tightening budgets, to find archaeological publications that are as lavishly illustrated as they are intellectually groundbreaking. In *JADE*, we are presented with such a treat. This two-volume set, made up of 29 chapters, appendices, and nearly 1,000 color plates, brings together the results of *Projet JADE* (2007–2009), a remarkable international effort dedicated to studying the exchange of jade axeheads in Europe during the Neolithic and Copper Age. Originating in quarries high in the Alps, more than 1,700 large (>13.5 cm long) and thousands of smaller jade axeheads reached communities as far away as Ireland, Scandinavia, the Iberian Peninsula, and Bulgaria, traveling up to 2,000 km as the crow flies. In *JADE*, we learn about the life histories of these axes, from their extraction and initial shaping in the Alps to their polishing (and sometimes repolishing and perforation) in different regions, through their use as valued tools or as gigantic “object-weapons,” their imitation in other stones, to their final deposition as hoards or single finds near water (rivers and marshes), at distinctive rocky outcrops, or as broken sacrifices at grave sites. The exchange of these exquisitely polished axes, which were made of a variety of metamorphic stones (jadeite, eclogite, omphacite, and, more rarely, nephrite), represents the most extensive trade network in pre-Roman Europe, if not one of the most far-flung trade networks of the ancient world. As such, the distribution of these jade axeheads provokes important anthropological questions revolving around the technology of their manufacture, as well as their social, economic, political, and religious significance. Their exchange also provides evidence for the diverse ecologies exploited by Neolithic peoples: the Monte Viso quarries, for example, are found at an elevation between 1,500 and 2,400 m above sea level.

The book is organized into five sections. The chapters in Part 1 consider the geological characterization of the Alpine jades, as well as insights gained from experimental archaeology and the ethnoarchaeological research of the Pétrequins in New Guinea conducted for 21 years among different tribal groups. Through experimental manufacture of the axes, for example, it was learned that 2–3 g of a prepared jade blank could be removed by polishing. This means that to polish the larger and thinner blades (which could be up to 46 cm long and only 2 cm thick), hundreds of hours would have been needed. Two major sources of jade have been identified in the Alps: Mont Viso and Mont Beigua. For the characterization of the stones, spectroradiometry, X-ray diffraction, and thin-sectioning were conducted. All the thin-sections and source materials are collectively housed and archived in the Musée d’Archéologie du Jura à Lons-le-Saunier. Part 2 deals with the distribution and distinctive typologies of jade axeheads in different regions, including the Iberian Peninsula, France, Great Britain, Ireland, The Netherlands, Italy, and Bulgaria. Part 3 engages with the idea of jade axes as object-signs and their imitations in different materials. Part 4 considers the social and ideological significance of axes in Europe. Finally,

Part 5 provides a synthetic overview of the book, a catalogue of the approximately 1,700 large jade axes known, and drawings of some of these large axes. A searchable version of the catalogue and the drawings can also be accessed online at <http://jade/univ-fcomte.fr/bdd>.

This volume not only documents and painstakingly describes the diverse forms that jade axes took in different regions and over time and the different social milieux in which they circulated. The research of *Projet JADE* presented in the book also profoundly challenges ideas of Neolithic economic and social life in Europe. Prior to the groundbreaking work of the Pétrequins, the precise sources of jade in Europe were unknown. It had been assumed that, because most of the jade axeheads were stray finds, they were all fashioned from secondary debris found in the moraines of the Alpine foothills. After a dozen years of survey in the Alps, however, the authors discovered quarries in the Mont Viso massif in the Italian Alps in 2003. Not only did the artifacts share geochemical characteristics with this source area, evidence was found for the extraction of jade, in the form of hammers, thermal clasts, and blanks. A series of AMS dates from Mont Viso sites points to its earliest period of exploitation in the Neolithic, between 5500 and 3700 cal BCE. Thus, this research points not to an opportunistic acquisition of jade, but a more deliberate and energy-intensive economy that had profound social consequences.

A second major contribution of this project, which builds on the results of the sourcing studies of the jades and the ethnoarchaeological studies of the Pétrequins in New Guinea, is that it suggests that the social landscape of Neolithic Europe was more hierarchical and heterogeneous than generally presumed. The vast distances these axes traveled, the energy embodied in their manufacture and polish, and their disposal (and sometimes breakage) at ritual sites all point to their participation in powerful political and symbolic contexts. Access to jade axeheads must have conferred inestimable authority, or even aura, to individuals or groups and created distinctions between them and those who didn't have such access. Indeed, it would not be too far to argue that jade axes (and the particular forms into which they were made in different regions of Europe) created social identities in Neolithic Europe. That Mont Viso, the highest point in the southern Alps and the source of two-thirds of the Alpine axeheads that circulated in Neolithic and Copper Age Europe, was a sacred mountain whose stones provided ancestral authority seems like a reasonable interpretation. The distribution of the jade axeheads, which does not conform to down-the-line patterns, also suggests a more variegated and stratified social landscape than generally presumed.

Importantly, we learn from this book not only where jade traveled, but where it did not. Jade axes are generally not found in eastern Europe. The authors suggest that two Europes existed in the fifth millennium cal BCE: a Jade Europe, to the west, and a Copper Europe, to the east. The authors suggest that these two communities of valuation existed largely independently of each other, until the influence of eastern Europe (and their systems of material valuation as expressed through the fashioning of axes in the form of copper axes) largely subsumed western Europe around 4,000 cal BCE. One might disagree with this idealist and macroscale explanation, but one is at least forced to consider the role of local agency and values in the adoption and non-adoption of jade axeheads.

This book and the research of *Projet JADE* are impressive, representing decades of sustained research by dozens of collaborators around the world and more than a decade of ethnoarchaeological studies. The presentation of raw data (and their publication online) provide exemplary models for how major interdisciplinary projects should disseminate their data. While the book engages with multiscale research, looking at pan-European as well as regional patterns of jade circulation, archaeologists working at the site level are challenged to consider why jades might appear at one site and not at another. There is much in this book for anthropologists of material culture, particularly those concerned with the intersection of technology, economics, and social life. The stunning photographs of these luminous objects also make this book as easy on the eye as it is stimulating for the mind.

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