

of the prehensile mode of stone tool replicas. This is directly applicable to prehistoric archaeology both as a method and as a manual. It is a much-needed addition to the literature of prehistoric stone tool function and engineering design.

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Lithic Technology in Metal Using Societies: Proceedings of a UISPP Workshop, Lisbon, September 2006. Berit Valentin Eriksen, ed. Aarhus, Denmark: Aarhus University Press, 2010, 260 pp. 388.00 DKR (ca. \$75.00), cloth.

Lithic Technology in Metal Using Societies is a valuable addition to archaeological publications dealing with material culture whether or not one is interested in lithic technology. The publication resulted from a workshop at the XV UISPP Congress in Lisbon in September 2006. The theme was derived from the common assumption that lithic technology had subordinate importance once metallurgy had been developed. Furthermore, metallurgy is often viewed as key to the social complexity that stone technology could not have produced. Further, since lithic technology during the metal ages is the Cinderella of lithic research (mentioned at least twice in the volume), it does not receive sufficient attention. All the chapters in this volume, edited handily by Berit Valentin Eriksen, seek to disprove such assumptions and succeed in doing so in a very sound way.

In general terms, the publication can be praised for the extent of its geographical scope. There are chapters on research in Europe and the Mediterranean, South Asia, and Southeast Asia. The authors as well come from several countries, providing different approaches and views of the research of material culture, including one contribution from the United States. The broad international range of research areas and researchers gives the reader a good “mix” of ideas, approaches, and theories. Finally, the case studies deal with a variety of lithic assemblages, including recent excavations as well as museum collections, and the attendant challenges associated with the different contexts.

The papers can be grouped, again in general terms. A few appear to be preliminary rather than final, with concluding remarks indicating that the authors plan to do more research. There is clearly no difficulty with such contributions. They indicate future challenges and avenues of research (Karimali, Kourtessi-Philippakis). Several papers are based on extensive research and conclusions, such as those by Eriksen; van Gijn; Gilead, Davidzon, and Vardi; Haidle, Neumann, and Pawlik; Honegger and de Montmollin; and Bronowicki and Masojc. Two papers deal with the use of stone in processes of metalworking (Armbruster, Freudenberg). The chapter by Frieman does not fall easily into any group. It deals with defining and understanding skeuomorphism—both stone imitating metal and metal imitating stone. The author provides a truly interesting account of the structural meaning of this common archaeological observation.

Other chapters which defy grouping are those of Ballin, who examines the uniformity of lithic technological degeneration among peripheral and central places, and Hogberg, who argues that shape and function had not been connected to the stone assemblages from settlements but do seem to be related to the production of blade knives during the Late Bronze Age in South Sweden. Specific study of the stone arrowheads of Mycenae by Druart reflects extensive research into a class of material culture which has not received the same attention as metal goods of a complex society.

Many chapters include discussion of raw materials and potential sources, although petrographic studies seem limited. Sorensen’s contribution attempts to examine the development of exchange patterns in the Aegean, referring to spectrographic studies of obsidian sources.

Two chapters deal with comparative studies of stone assemblages through time. Rosen's contribution argues convincingly for being able to distinguish between the assemblages of desert pastoralists from the Bronze Age and later in the Negev versus those of settled agriculturalists. Raczek also provides a comparative analysis of lithic production versus that of copper in terms of the organization of technology, including procurement. She argues well, as do other authors in the volume, that the organization of technology involves social factors such as subsistence, mobility, and economic relationships as well as the physical properties of the materials under study.

All in all, the contributions were worth publication and reading. The evidence provided is extensive and well-presented. Several themes are repeated throughout the volume, such as organization of production and *chaîne d'opératoire*. However, there is no sense of redundancy. I must admit that I bring a bias for lithic technology to my review. Recently, an article in a popular archaeology magazine highlighted metallurgy as the catalyst for human social development, complexity, hierarchy, and much more. Be that as it may, the value of studies like those of this volume is that they cause us to remember that with pre-/protohistory we are dealing with a continuum, not unrelated stages.

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Les Industries Lithiques Archaïques de Barranco León et de Fuente Nueva 3: Orce, Bassin de Gaudix-Baza, Andalousie. *Isidro Toro Moyano, Henry de Lumley, Pascal Barrier, Deborah Barsky, Dominique Cauche, Vincenzo Celiberti, Sophie Grégoire, Frédéric Lebègue, Brahim Mestour, and Marie-Hélène Moncel.* Paris, France: CNRS Éditions 2010, 307 pp. €57.00, paper.

Recent research in southern Europe has pushed back the time for the initial hominin colonization of western Europe beyond one million years. However, the archaeological evidence of this initial phase of occupation remains extraordinarily thin. In this context the stone tools recovered from the sites of Barranco León and Fuente Nueva 3 near Orce in southern Spain take on extraordinary importance. The monograph by Isidoro Toro Moyano and colleagues provides a full account of the lithic material recovered to date at these sites and raises our anticipation for new discoveries in this region. This publication also raises significant questions about the technology of the initial hominin occupants of western Europe.

The sites of Barranco León and Fuente Nueva 3 are well dated by a combination of paleomagnetism, Electron Spin Resonance, and biochronology to approximately 1.2 million years BP. These sites were located in the Guadix-Baza sedimentary basin along the edge of a shallow freshwater lake. A significant portion of the monograph involves identifying the sources of raw material in the region, first in primary outcroppings and then in secondary deposits. This section is beautifully illustrated with both photographs of geological context and thin sections. The hominins were making use of cobbles of chert and limestone found in secondary deposits near the sites. Despite extensive excavation, the assemblages are small and are dominated by unretouched flakes, mostly smaller than 4 cm in maximum dimension. At Barranca León 18 cores, 12 worked cobbles, and 439 flakes were recovered, while at Fuente Nueva 3 the numbers are 21 cores, 24 worked cobbles, and 379 flakes. The authors have given this assemblage a remarkable degree of attention and provide the reader with copious illustrations, including drawings, photographs, and schematic diagrams. This attention to detail is critical, as most of the recovered artifacts are tiny unretouched flakes that are far too easy to overlook.

The technological and typological analysis is detailed, but the research team was