

THOMAS R. HESTER  
*University of California, Berkeley*

ROBERT F. HEIZER  
*University of California, Berkeley*

# Bibliography of Archaeology I: Experiments, Lithic Technology, and Petrography

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A. EXPERIMENTS AND REPLICATIONS

Attempts to duplicate prehistoric forms of artifacts with the aim of learning the processes by which such forms were fashioned, the amount of time and effort involved, and the uses to which artifacts were put, have been carried out by archaeologists for over a century. The bibliography which follows shows how varied has been this kind of attempt to understand the technological processes of prehistoric peoples. Most experiments and replications have been carried out by individuals interested in a particular kind or class of artifact. But with the near-disappearance of primitive peoples and also of folk-cultures, the hope of observing the methods of manufacture and utilization of an almost infinite variety of prehistoric objects has dimmed. Perhaps for the reason that the archaeologist is now essentially on his own in many situations where he must try to



understand how prehistoric things were made and used, he is becoming increasingly aware that his own careful replications of flint implements, pottery, drilled stone objects, tree-felling with stone axes, constructing ancient house forms, and the like, may be better guides to understanding than the long used means of ethnographic analogy.

We are convinced that one of the "new archaeologies" will focus on the processual aspects of material culture through replication and experimentation, and it is toward that end that we provide this bibliography, both as a review of some of the work that has been done and as a possible aid to further research.

The references in this section are divided, for convenience, into five major classes: (A.1) general references on the subject of archaeological experiments; (A.2-A.10) experiments to learn how things were made; (A.11-A.17) experiments to learn how things were used; (A.18) experiments in the intellectual aspects of culture; and (A.19) experiments to illustrate archaeological situations and processes.

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## B. LITHIC TECHNOLOGY

The emphasis in this bibliography is on the analysis of chipped stone technology--the mining and quarrying of raw materials, techniques and processes of tool manufacture, methods of distinguishing between human and natural modification of stone, functions of tools and study of wear patterns, techniques of resharpening dulled stone tools, and so forth. References to lithic research involving replicative experiments appear above in Section A. We have not incorporated references dealing with the manufacture or use of ground and polished stone implements, and we have not dealt with typological or statistical analyses of lithic materials. In addition, unpublished papers or papers which were delivered at scientific meetings are not listed. Certain of the subjects considered in this bibliography are of such wide scope that we have listed only a selection of references.

Since there has been a proliferation of published studies on various methods of lithic investigation, we felt that it was necessary to assemble many of the fundamental references. We anticipate that such a compilation will be both an aid and a stimulus in future lithic research. Students at the Laboratory of Anthropology, Washington State University, have initiated a "Newsletter of Lithic Technology" (R. Knudson and G. Muto, editors) in an effort to promote communication among the growing numbers of archaeologists who are conducting research in lithic technology. We know of a few other bibliographies of lithic technology which have been issued in dittoed or mimeographed form for use by students in lecture or laboratory courses. The following persons have generously sent us copies of their bibliographies prepared for class use: M. H. Newcomer (Institute of Archaeology, London), T. R. Reinhart and P. DeBoer



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### B. 3 IDENTIFYING THE FUNCTION OF CHIPPED STONE TOOLS

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B. 4 ETHNOGRAPHIC STUDIES OF LITHIC TECHNOLOGY

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#### B.10 SOME SUGGESTIONS FOR DESCRIBING CHIPPED STONE MATERIALS

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C. PETROGRAPHY IN THE SERVICE OF  
ARCHAEOLOGY

Precise identification of rocks and minerals has an immediate and direct bearing on both lithic technology and experimentation where stone is the material employed. Exact identification of rocks or minerals used for artifacts provides the critical information necessary to identify, by comparison, the place of natural occurrences of particular minerals or stones. Our bibliography of the subject is divided into three parts: (1) methodological principles, (2) results of investigations of rocks and minerals, and (3) petrographic analysis of ceramics (primarily through microscopic examination of thin sections). We make no pretense of representing this as a complete reference bibliography, but rather as a sampling drawn from a much larger list in our files. We have included a limited number of citations to petrographic examination of ceramics, even though pottery is in itself a compound artifact. The fullest and best methodological treatment of the subject known to us is by Stelcl and Malina (1970).

What may be the first recorded instance of sampling a stone artifact for the purpose of identification and comparison is that reported by John Greaves (*Miscellaneous Works*, London, 1737, Vol. I, p. 128), who in 1638 knocked off a piece of the granite sarcophagus in Cheops pyramid in order to examine the rock more closely to learn whether it was made of "Aethiopick marble" (the term he used to describe the reddish granite from Aswan). The first modern petrological examination of prehistoric stone axes is said to have been made by A. Damour (1863).

C. 1 METHODOLOGICAL PRINCIPLES OF  
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## C. 2 RESULTS OF PETROGRAPHIC AND TRACE ELEMENT ANALYSIS OF ROCKS AND MINERALS

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