

other. But on the whole there is very little to fault. Let us hope the University of Tokyo continues its fine tradition of archaeological reporting.

*Experimental Archaeology*. JOHN COLES. Academic Press, London, 1979. ix + 274 pp., illus., index. \$25.00 (cloth), \$11.50 (paper).

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In 1973 John Coles published the first book-length treatment of the experimental approach, entitled *Archaeology by Experiment*. This early book was a survey of the major studies which had been done up to that time. Now, more than six years later, Coles has produced a second book called *Experimental Archaeology*. The second book, like the first, is intended as a review and summary of the field's accomplishments. It differs from the earlier volume in that it covers a broader range of topics and also takes into account a considerable amount of work done since 1973. Indeed, the vitality of the field is such that, in the relatively short time separating the two books, the size of Coles' bibliography has almost doubled.

Coles defines experimental archaeology as "any honest effort to understand ancient artifacts by actually working with them" (p. 12). This is a broad definition (perhaps too broad, as we shall later see) and naturally forces the author to be selective in choosing topics and particular studies for presentation. European studies, for example, tend to be discussed more frequently than American studies. The tremendous volume of recent experimentation on the manufacture and use of flaked stone tools is (by the author's own admission) given only cursory treatment. And, though Coles acknowledges the importance of ethnographic information to archaeological reconstruction, there is virtually no mention of ethnoarchaeology, which is considered by some to be very much a part of the experimental approach (e.g., D. Ingersoll et al., *Experimental Archaeology*, 1977).

The book's first chapter begins with a history of experimental archaeology, tracing the roots of the subject back into the nineteenth century. It then moves on to a general discussion of the rules and procedures which govern the experimental approach. Coles stresses quite correctly that the key to useful experimentation is that the work be designed to answer a specific question or questions: "the experiment designed only for vague curiosity will probably yield nothing of permanent worth" (p. 43).

This background established, each subsequent chapter presents a sampling of experimental work dealing with a particular topic. "Discovery and Exploration" covers various sea voyages which have been undertaken to demonstrate the feasibility of transoceanic contact, including those of the *Kon-Tiki*, *Hökule'a*, *Brendan, Ra*, and several Viking ships; it also describes a number of attempts at reconstructing ancient wagons and chariots. The chapter on

"Subsistence" summarizes experiments designed to shed light on aspects of food production (land clearing, tilling, harvesting, etc.), food storage, and food preparation. "Settlement" looks at reconstructions of ancient dwellings and other structures; especially interesting is the attention given to experimental studies of settlement destruction and erosion, processes the understanding of which is critical if we are to correctly interpret how sites were formed. "Arts and Crafts" describes experimentation as applied to a broad range of light industries, including the manufacture and use of stone tools, bone implements, metals, pottery, weapons, clothing and textiles, leather, pigments, and ancient musical instruments. The first half of the chapter called "Life and Death" is taken up with a discussion of modern attempts to experience life under primitive conditions—notably the projects initiated by Errett Callahan in the United States and by deHaas in the Netherlands; the second half describes investigations into trephining, cremation, mummification, and the construction of large stone and earthen monuments. Finally, the "Conclusion" sums up the book and points out directions for future research.

As noted previously, Coles's second book has the advantage of broader coverage; but the fact that more topics are covered necessarily restricts the amount of detail that can be devoted to some. Certain areas of experimentation, having been given extensive treatment in Coles's first book (e.g., ploughing, earthworks, musical instruments), are given much briefer treatment in the second. Thus, even though there is much repetition, it cannot be said that the second book entirely supersedes the first. Rather, the two books are in many ways complementary, and anyone interested in the subject would do well to read both.

My only major quibble with the book stems from the fact that considerable space is devoted to experiments whose substantive contributions to archaeological knowledge are dubious at best. A prime example is Heyerdahl's "*Ra Expedition*," in which Heyerdahl managed to sail a reed boat built by South American Indians from North Africa to Barbadoes. Great for *National Geographic*, but what relevant or archaeologically interesting questions this may have answered is hard to see. The same might be said for the Dutch "living archaeology" experiment, whose goals were outlined as follows: "The project did not set out to provide scientific observations and records for others. Instead it was simply designed to provide a test and an experience for the members, to see how they would enjoy, and react to, life under simulated Neolithic conditions" (p. 226). Fun yes; educational perhaps; but this sort of uncontrolled "experimentation" contributes no more to archaeology than a summer spent in boy scout camp.

Quibbling aside, the book is very nicely done overall. It is a good introduction to the subject. Coles' style is lucid and witty, and the exposition is laced with some marvellous anecdotes. *Experimental Archaeology* can be employed to good advantage as a text, and its index and bibliography make it useful as a sourcebook also.