tities not directly measurable and, in particular, the illustrative mechanical models esteemed since the time of Descartes. Mach's most influential work, his "historico-critical" *History of Mechanics*, tries to show that our fondness for such models rests mainly on historical accident and that thereby much that is useless and even harmful has crept into science. As examples of expendables Mach pointed to the structured atom and the theory of relativity.

In the book under review Bradley gives an appropriately economical exposition of the elements of Mach's philosophy and of the chief products of his historico-criticism. Among the latter, Mach's celebrated interpretation of Newton's "laws" of motion, his analyses of inertia and of time, his electrical analogy to Carnot's engine, his temperature clock, and other ideas can still be studied with profit and even with excitement. Bradley's exposition ought to be easily intelligible to advanced undergraduates. He has simplified here, extended there, and not hesitated to criticize—with the help of Campbell, Braithwaite, Popper, *et al.*—what he finds faulty in Mach's philosophical position. One regrets that his vigilance did not extend to the historical order. Mach studied the history of science in order to prove a point; he not unnaturally exaggerated and distorted, as recent historiography amply demonstrates. Bradley ignores this literature, follows and sometimes embroiders Mach, and occasionally slips from criticism into mythology.

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American Prehistory

Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949–1955. PHILIP PHILLIPS. Peabody Museum of Archaeology and Ethnology, Cambridge, Mass., 1970. In 2 parts. xxviii, 1000 pp., illus. Paper, $30. Papers of the Peabody Museum, vol. 60.

As archeological research in the eastern United States began to expand in the 1930's, a joint endeavor of three large universities saw the initiation of an intensive survey of the prehistoric sites of the Lower Mississippi River Valley. This impressive two-volume study is another in the series of reports that have resulted. The author, long associated with Harvard Peabody Museum, has been actively interested in the area since before 1940, and no scholar has a greater grasp of the details of the prehistory of the Mississippi Valley from the mouth of the Ohio River to the Gulf. The Lower Yazoo Basin is a small part of the great valley and its tributaries, but it is a highly significant cultural hearth in the total prehistory of the area.

This monograph represents the accumulation of survey and field data plus laboratory analyses that were begun about 1950. Part 1 is concerned with the method and theory involved, with the description of the pottery types, and with the location and situation of the sites that are the basis for the study. Part 2 is devoted to the site excavation program and to the delineation of the various cultural periods that the author could establish on the basis of this information.

In the Mississippi River Valley, from the Great Lakes to the Gulf, the prehistoric residents evolved several great pottery traditions, and the near-imperishable fragments of these vessels constitute the tools of the archeologists who attempt to unravel the relationships or even the methodologies used. In an introductory section of part 1, Phillips briefly but masterfully treats of the problems relating to ceramic typology. He not only sets forth what has been done in the past but clearly states why he has selected some of the arbitrary types that he uses. Phillips is an advocate of a method of viewing aboriginal pottery called the "type-variety concept." He describes a basic type according to mode of manufacture and decorations, then uses all the local deviations from that type as variants or regional manifestations. These nuances of manufacture enable judgments of geographic spread of ideas about pottery making. However, Phillips is careful to state that he does not think analyses of potsherd collections from archeological sites will ever "tell us very much about cultural and social behavior." His pottery types and their recognized varieties have been selected from "an endless number of possible variations," but they are ones judged "to reveal significant relationships."

There is much written today about the "New Archeology," as though the old archeology were rather pedantic and useless. What is implied by the former is that the archeological data are directed to illumination of the total lifeway of a people. The New Archeology does not reject "data" per se, but it exalts the statistical treatment of information in order to make possible a greater confidence in the conclusions drawn. This work represents a happy blending of the old and the new. It is in part a compilation of raw data—field results from excavations—that probably will not be surpassed and will but rarely be approached again in American archeology. The information from the 157 sites studied is a data bank usable for generations to come. Although the author denegates archeology as history and purports to be doing "science," the work is that of an artist. It is distinguished by the individualistic manner in which he handles the materials. In his particularistic style, he shares with other scientists his interpretations of the data. Happily his style is highly literate and embellished with touches of lightness that encourage the closest reading.

The detailed descriptions of the pottery types will serve as a guide and catalog for archeologists working in the Lower Mississippi Valley for many years to come. No area professional's library can be without these volumes. Students of the development of archeology in the eastern United States will read with profit the evolution of many of the ideas embodied in this study.

Even a brief perusal of the volumes gives one an indication of the tremendous amount of labor involved in their preparation. The hundreds of illustrations enhance the site reports and the beautiful plates of the pottery types make them invaluable. But ultimately the great value of this work is in the philosophical treatment of many of the fundamental ideas involved—the nature of theory in archeology, the validity of typology, and the reconstruction of regional chronologies. This publication will be the foundation and fountainhead of many future works on the archeology of the southeastern United States.

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Books Received

Actions Chimiques et Biologiques des Radiations (The Chemical and Biological Actions of Radiations). Quinzième série. M. Haïssinsky, Ed. Masson, Paris, 1971. 216 pp., illus. 120 F.

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