

proach. Each of us must weigh the demands of individual conscience and social commitment as best he can. Rapoport's book has the virtue of raising this eternal issue for the citizen and scientist in a new era of human experience. Unfortunately, his own passion has prevented him from examining the problem with the care it deserves. Yet, if Rapoport has opened up a dialogue on these matters, and I hope he has, this provocative if frequently disappointing book will have served an important purpose.

Experimental Archeology

The Experimental Earthwork on Overton Down, Wiltshire, 1960. P. A. Jewell, Ed. British Association for the Advancement of Science, London, 1963. 108 pp. Illus. \$4.50.

With the development of more precise analytical methods in archeology during the past few years, it has become increasingly important for the archeologist to know in some detail about the changes and disturbances that have occurred in archeological sites as the result of weathering and other natural causes. This volume reports an ambitious and comprehensive experiment by a committee of Section H (Anthropology) of the British Association for the Advancement of Science, in which a simulated prehistoric earthwork was built under precise controls, with observation of changes to be made by periodic excavation at intervals of 2, 4, 8, 16, 32, and 100 years after its construction. Archeologists of the future will have reason to thank the committee for this 100-year experiment which will yield precise data on weathering phenomena.

One aspect of weathering of great importance in archeology is internal disturbance and mixing of archeological deposits, with consequent confusion about the true relationships of the layers and objects found. With the current interest in statistical analysis of archeological collections, the question of disturbance is a vital one in evaluating the samples (of potsherds, shells, or whatever) taken for statistical study. The dispersal or movement of buried objects is little understood, although it is apparent that rodents, plant roots, freezing and thawing, and even earthworms, can transport buried objects

from their original location in the ground. The experimental earthwork will provide precise data on such movements of buried materials.

Aside from the detailed care in construction of the earthwork itself, a number of material objects were buried in exact locations to check the weathering action. These included six types of textiles, leather, burned and unburned wood, cooked and uncooked animal bones, human bone of known blood group, and cremated human bone. Also buried was a series of numbered potsherds.

A by-product of the experiment was the collection of data on the amount of work possible with ancient implements as well as modern ones. Since estimates of the man-hours required to construct ancient monuments vary tremendously, experimental data of this kind have considerable interest. The worker with modern hand tools averaged 3.58 cubic feet of earth per man hour, the worker with primitive tools 3 cubic feet per man hour.

The answers to be provided by the experimental earthwork should provide valuable correction factors in many archeological interpretations.

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Clinical Medicine

The Biochemistry of Clinical Medicine. William S. Hoffman. Yearbook Medical Publishers. Chicago, ed. 3, 1964. xii + 802 pp. Illus. \$12.50.

The task of keeping abreast of the increasing torrent of developments in clinical medicine—developments that are now primarily biochemical in nature—has increasingly led to multiple-author texts. Hoffman has, however, valiantly put out again in his one-man book (with the exception of a chapter on gastric and pancreatic secretion by A. Littman) to cover the waterfront of medicine. The effort is eased and the goal narrowed by the author's avowed didactic approach, which also minimizes chemical reactions and formulas and which is directed toward helping "the physician who has no more than the usual training in chemistry and physiologic sciences to understand and apply the available information for diagnosis, prognosis and treat-

ment." The metabolism and role of the various tissue and dietary constituents and the anatomy and function of various organs in health and disease are discussed with particular reference to biochemical changes and the application and results of various diagnostic procedures. The author's background in clinical chemistry and medicine contributes to a solid achievement of the stated goals.

In a book of this scope and type, inaccuracies, outdated material, and omissions are inevitable; and the recommendations for treating certain disease states will meet with some disagreement. However, practicing physicians, residents, internes, and medical students, will find this volume a very useful and readable reference source.

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Research in Entomology

Radiation, Radioactivity, and Insects. R. D. O'Brien and L. S. Wolfe. Academic Press, New York, 1964. xv + 211 pp. Illus. Paper, \$3.45; cloth, \$5.95.

This volume, with its improbable title, was prepared under the auspices of the American Institute of Biological Sciences for the U.S. Atomic Energy Commission. The authors, R. D. O'Brien and L. S. Wolfe, set out to provide an introduction for "entomologists and other biologists who want to know the way in which research with radiation and radioisotopes has advanced our understanding of insects . . . [and for] those knowledgeable in work with irradiation and radioisotopes who would like a comprehensive account of what has been done with insects." To accomplish this dual objective, they begin with a chapter on elementary entomology and continue with chapters entitled "Nongenetic effects of radiation," "Tagging" (marking individuals so that they can be recognized when captured later), "Insect control by irradiation" (a way to control pests of stored grain products and timber, and a way of sterilizing males for field release so that they will satiate but not fecundate females), "Biochemistry," and "Physiology" as well as chapters on light responses and the use of tracers in studies of in-