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BOOK REVIEWS

UNDERSTANDING ARCHAEOLOGICAL EXCAVATION, by Philip Barker. Pp. 190, figs. 94 with glossary. St. Martin's Press, New York 1986. \$21.95

Readers know Philip Barker as the author of *Techniques of Archaeological Excavation*², published in 1982 by Batsford, London. A seasoned archaeologist, Barker has been actively engaged in fieldwork for years and is keenly aware of its extraordinary complexities. The core of archaeology is scientific excavation. It is a difficult and complicated recovery process, for a myriad of accurate information must be collected, ordered, analyzed, interpreted, and published to understand a site and its impact on the environment. This book and its more worthy predecessor concentrate primarily on problems attendant to British archaeology, i.e., Iron Age, Romano-British, and Anglo-Norman sites. Like its predecessor, this work is richly illustrated; 70% is comprised of full-page captioned illustrations drawn primarily from the author's investigations at Hen Domen, Montgomery, and Romano-British Wroxeter. It is here the similarities end. While *Techniques* is authoritative, *Understanding* falls short of communicating the state of the art.

The volume under review is divided into seven chapters. The first analyzes how archaeological sites are formed with sections on postholes, ditches (including ramparts), mounds, robber trenches, and includes a hasty paragraph on the variety of archaeological sites. Entitled "The Development of Techniques," the second chapter is devoted to pre-excavation considerations with particular emphasis on site types and planning. Barker's plea for a national research strategy is admirable. However, much of the subject matter covered in Chapter 2 overlaps with the discussion of "Pre-excavation Research" in Chapter 3. The coverage of non-destructive field methods includes one brief paragraph on contour surveying. The sections on bore holes, trial trenches, and test pits would have been more appropriately placed in Chapter 4, "Excavation Methods." In this chapter, the author argues for extensive horizontal excavation with foci on research, rescue, salvage work, and the excavation of architectural components. Here, as in the previous chapters, the text falls short of presenting the reader with an orderly progression of thought, and the interrelationship between text and illustration is ambiguous. The result is a patchwork of ideas. Chapter 5, "Recognizing and Recording the Evidence," is the most satisfactory contribution of the book, although the text, once again, is interrupted by illustrations layered on illustrations. Maps, charts, and splendid photographs have an uneasy look of being used to tell a story on their own. Chapter 6 contains lessons on "Interpreting the Evidence." The very core of interpretation is based on inductive and/or deductive reasoning, a subject overlooked. Chapter 7, concerned with publication, also emphasizes the use of reconstructions in fostering public understanding.

The mastery of at least some of the aforementioned areas is the *sine qua non* of understanding archaeology: the nature

of archaeological data, reconnaissance, survey, excavation, data processing, classification, analysis, temporal frameworks and chronology, spatial frameworks, interpretation, and publication. The author does touch on these topics, but their treatment is scattered, uneven, incomplete, and lacking in detailed discussion.

The style of the language is informal, and the early chapters are jargon-ridden. When an introductory book employs native terms, it is a drawback. There is an unfortunate insistence on nomenclature such as (p. 139) "context," a generic term the author states has been "adopted for all structural or depositional events." Furthermore, some key words are not well explained. Should the reader be able to grasp the distinction made between section and profile (fig. 39, caption), or the discussion (p. 89) of the "cumulative section"? The short index does not help to resolve these difficulties. In the main, it is comprised of proper nouns. The glossary is inadequate. In the preface the author states that this book is an expansion of K. Greene's, *Archaeology. An Introduction*. Perhaps it is, but alone it lacks comprehensive coverage of fundamental questions involved in archaeological research, analysis, and documentation.

While Barker admirably stresses the concern for archaeological data to be preserved in the ground, it is disappointing that he fails to address controversies among archaeologists worldwide, such as the liaison between professionals and government agencies for antiquities legislation, or the battle of the profession vs. pseudo-archaeologists, collectors, looters, and dealers. These too are fundamental issues in understanding the dynamics of contemporary archaeology. This volume could have stimulated more public awareness for the threatened status of archaeological remains and their accelerated destruction.

In conclusion, this book may be a reference source for those specifically interested in British archaeology. Specialists, however, will find it outdated and limited in scope. Equally distressing, it is awkward in layout, scattered in thought, and many sections suffer from being long-winded, while others are crippled by poor writing. Those who wish an authoritative introduction should not presume that Barker presents a consensus of what is going on in the field, or the range of information now available. The title is deceptive, and the book fails to impress the reader with the complexities of *how to understand* excavation. Those who seek a perceptive and comprehensive guide must look further.

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CURRENT SCIENTIFIC TECHNIQUES IN ARCHAEOLOGY, by P.A. Parkes. Pp. xi + 271, figs. 52, with summary table and list of laboratories. St. Martin's Press, New York 1986.

This volume covers very much the same ground as earlier books by British scientists at the Oxford Research Laboratory for Archaeology and the History of Art (M.J. Aitken, *Physics and Archaeology* [Oxford 1961, rev. ed. 1974]) and the British Museum Research Laboratory (M.S. Tite, *Methods of Physical Examination in Archaeology* [New York and London 1972]). The three books focus on physical and chemical techniques for locating, dating, and analyzing archaeological materials. Parkes's study shows the influence of Aitken's book, not only in its discussion of basic principles and experimental considerations, but in its organization—radiocarbon dating, followed by thermoluminescence and archaeomagnetism, with geophysical prospecting methods near the end. In addition, like Tite, recently developed techniques in archaeological materials analysis, principally spectroscopic techniques, are included. To help the archaeologist decide the value of each method, specific archaeological applications are cited. A concluding chapter on computers reflects the ever-increasing role of computers and statistical analysis in science and archaeology, already recognized by Tite in the introduction to his book.

The similarities of Parkes's study to the two earlier books need not detract from its value. Even if one has read Aitken and Tite, important advances have occurred since the publication of their books, and Parkes's book constitutes a much needed updating. For example, the discussion of radiocarbon dating in the first chapter provides a current overview and appraisal of calibration curves based on New World bristle-cone and Old World oak tree-ring series. Variation in the uptake of radiocarbon (fractionation) by different plant species, which can contribute to large errors in dating (p. 15), is stressed, along with other better known sources of error. A short section on dating small samples by mini-counters and accelerators provides convenient guidelines for the uninitiated.

A similar concern for accuracy and the current status of each technique, from isotopic studies for climatic or dietary reconstruction to amino acid and obsidian hydration dating, is evident throughout the volume. Because of the abbreviated or combined treatment of some techniques, however, their usefulness may occasionally be over- or underestimated. As one instance, some of the limitations of electron microprobe analysis are confounded with particle/proton-induced x-ray emission (PIXE) spectroscopy (pp. 153–54), and the latter method's greater sensitivity goes unmentioned. Minor points of contention arise, such as whether radiocarbon dating's dependence on tree-ring calibration has reduced it to a relative dating technique (p. 11); by the same reasoning, thermoluminescence cannot be considered an absolute method (p. 36) because the ancient environmental radiation dose must be measured against that of a modern test capsule.

From the title of the book, an all-inclusive discussion of scientific techniques in archaeology might have been anticipated. This is obviously not the book that was written, but, with no intention of being unfair to the author, it serves to highlight the limitations of traditional approaches. The author on the first page of the text explicitly excludes detailed treatment of techniques from the life and earth sciences,

which have become very important of late in reconstructing the ecological and economic relations of ancient peoples to their environments and formative/disintegrative processes of sites and materials. As she points out, some techniques from these disciplines (e.g., dendrochronology, mineralogy, sources of the earth's magnetic field) inevitably enter into her discussion. It can also be argued that some physico-chemical techniques treated in depth (isotope analysis, pyrolysis mass spectrometry, electromagnetic surveying, etc.) are more likely to be employed by biologists, geologists, or even archaeologists than by physicists or chemists. At issue here is whether the traditional academic separation of the physical, bio-/geological, and social sciences is the most appropriate paradigm for archaeological investigations, and, more specifically, whether handbooks on archaeology and scientific techniques should be written along these lines. Since archaeology is one of the most multidisciplinary of endeavors, drawing upon all the sciences as well as the humanities, this reviewer would argue for a more integrative approach.

Even if physico-chemical methods are the primary focus of the book, the implications of the data and conclusions derived from these methods need to be articulated with the results of other kinds of inquiry. A recent book on ceramics (P. M. Rice, *Pottery Analysis: A Sourcebook* [Chicago 1987]) illustrates such an approach for one class of materials, and the reviewer's work in the Baq'ah Valley of Jordan (P. E. McGovern, *The Late Bronze and Early Iron Ages of Central Transjordan* [Philadelphia 1986]) is one example of an integrative approach for investigating an archaeological region. The citation of archaeological applications following each technique in Parkes's book, with very little critical comment, gives little guidance to either the archaeologist, natural scientist, or other interested party about the significance of each other's findings. The archaeologist might well consider this volume a "cookbook" of scientific techniques by which he decides to call in a specialist, who then contributes a seemingly irrelevant appendix to the site report. The natural scientist should also be disappointed with the book, not only to the extent that it simplifies science but because it provides little substantive archaeology in the social scientific or humanist sense.

Technically, the book is well produced, and with few exceptions the illustrations are good. The relationship between Figures 9.10 and 9.11 is unclear, and the scale of Figure 9.12 is too small. The emission and absorption spectra are reversed in Figure 7.3. In places, the syntax is quite garbled, and the liberal peppering of the text with "thus" is distracting. The bibliographic references are generally limited to several British periodicals (particularly *Nature*, *Journal of Archaeological Science*, and *Archaeometry*), and the list of laboratories will primarily be of value to the British reader.

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