



Interdisciplinary Contributions to Archaeology

Edward B. Banning

The Archaeologist's Laboratory

The Analysis of Archaeological Evidence

Second Edition



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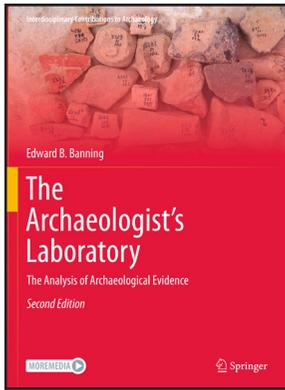
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Reviewed by Thomas E. Emerson, University of Illinois at Urbana-Champaign

The second edition of Banning's volume, *The Archaeologist's Laboratory*, provides a welcome update on important topics for archaeological practitioners. This revision not only covers new technological developments but also expands the coverage to include numerous case studies from around the world to illustrate the actual utilization of diverse approaches. The volume is divided into two major parts; the first treats what might be considered as the traditional "laboratory" portion of the archaeological endeavor and covers such topics as research design, issues of data collection including measurement error, data quality, typology, and statistical analysis, and then moves onto the creation of databases and the visual and numerical presentation of analyses. The second part presents overviews of various material and artifact types that archaeologists typically encounter such as ceramics, lithics, and bone and shell artifacts, as well as the collection and treatment of ecological data such as plant and animal residues. It also explores the importance of context and the use of chronological tools such as seriation, stratigraphy, radiocarbon dating and dendrochronology.

An attribute of the volume I especially appreciate is its treatment of critical features of archaeological practice that are all too often missing from academic training programs. Unfortunately, after 50 years of managing large-scale field and laboratory projects, I can attest that most beginning archaeologists lack the basic knowledge and skill sets needed to be successful in today's fast-paced field of cultural resource management. Few students are trained in data quality control, database creation and maintenance, digital and material curation, material conservation, or laboratory safety—yet these are the "nuts and bolts" of a successful archaeological endeavor. *The Archaeologist's Laboratory* treats many of these subjects – and provides guidance for further exploration of many topics.

Take for example, Banner's discussion of Quality Assurance (QA), a topic seldom encountered in archaeological literature. QA typically "involves policies, procedures, manual, standards, and systems...use(d) to ensure and improve the quality of products..." (Section 1.4, p. 14) and usually is associated with industry. However, Banner explains "(i)n an archaeological context, the "product" would be the data we produce with our observations and measurements, or the conclusions we draw from the data, and it is our job to create policies, procedures, and standards that help us ensure that the data are sufficiently accurate, precise, reliable and valid for the purposes we have set for them" (Section 1.4, p. 14). Few beginning archaeologists are trained to develop or implement even a basic QA program. The volume also covers an important but often neglected requirement of any analysis or curation project which is, or course, the creation of databases. Such databases

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are, in fact, key players in every aspect of archaeology from the field investigations to the final publication. All too often such tools are created almost as afterthoughts without a full understanding of their role in actually structuring the outcomes of the undertakings that they are seen as simply recording. Another significant contribution of this volume is to provide assistance to both beginning (and moderately experienced) writers in areas of data presentation, both visual and tabular, artifact illustrations, creating maps and figures, a brief introduction to the submission and review process (even a brief table of proof marks), and general advice on preparing their research for submission and publication. Whether one is preparing a basic CRM report or a peer reviewed journal article this information is pertinent.

The volume design and organization allow the reader/user to approach the archaeological process in a number of ways. For upper level undergraduate and graduate students, it is a comprehensive overview of what might think of as the “science” and the practical aspects of the discipline. It is focused on the collection and manipulation of the attributes, context, and chronological setting of the materials that form the basis for further theoretical reflections. Banner’s approach, while certainly based on the assumption that such efforts are undertaken within the context of a theory-laden research design, presumes that the archaeological process is a key essential regardless of subsequent theoretical manipulations. Without meticulous collection, manipulation, and analysis in the field and lab no theoretical massaging can produce consequential interpretations (i.e., the all too accurate truism of “garbage in, garbage out” applies only too well here). However, this is not simply a student handbook, practicing archaeologists can also benefit from the comprehensive coverage of topics that Banner treats, whether it is used as a “refresher” or a place to start exploring an unfamiliar topic. The volume’s clear writing style, numerous useful illustrations, organizational structure, and the additional references for more in-depth study allow the reader to pick and choose or to hone in on subjects or sections of special interest or, more challenging, to approach the volume in a linear fashion.

Archaeology has always encapsulated a dynamic tension between archaeological practitioners and academic theoreticians. Regardless of which side of the divide archaeologists align themselves, one would like to think that both would be grounded in the material remains of past societies. While in many academic programs, students are indoctrinated with the latest theories, they are usually ill-prepared to competently address the intricacies necessarily inherent in the infrastructures of modern archaeological projects. *The Archaeologist’s Laboratory* is an excellent way to prepare them for what one might call the “real world” of archaeological practice. It is a volume designed to be of value to upper undergraduate and graduate student as well as professionals and provides an excellent next-step accompaniment to post-field school students and a must-have reference in the library of any archaeological organization.