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## *Integrative Approaches in Ceramic Petrography*

Mary F. Ownby, Isabelle C. Druc, and Maria A. Masucci (eds.), Salt Lake City: University of Utah Press, 2017, 288 pp., ISBN 9781607815068, \$70.00 (hardcover); ISBN 9781607815075, \$56.00 (eBook)

### Reviewed by Debra A. Trusty

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*Integrative Approaches in Ceramic Petrography* makes an important contribution as one of the few texts solely devoted to studies that make use of microscopic analysis. Ceramic petrography, a technique that employs a polarized light microscope to identify the minerals and rock fragments that compose a ceramic fabric and the technological methods that went into the vessel's production, is a useful tool for understanding any aspect of a culture that used clay as a raw material. As the editors of this volume rightly note, this form of analysis can be used to understand a range of cultural practices, including production methods, technological advances, exchange systems, population movements, social changes, and cross-cultural interactions. As a result, this field of study is regaining popularity once again (though it never actually disappeared). An example of this trend is the recent establishment of short (1- to 2-week) programs by scholars at the British School in Athens and the University of Sheffield in the U.K. that are open to any archaeologist interested in incorporating petrography into his or her research. Recognizing this renewed interest, Ownby, Druc, and Masucci organized a symposium at the 2012 Society for American Archaeology meeting. This volume is a result of that event.

This text joins the ranks of Middleton and Freestone's *Recent Developments in Ceramic Petrology* (1991) and Quinn's *Interpreting Silent Artefacts* (2010), demonstrating the cross-cultural applications of petrographic analysis. Ownby, Druc, and Masucci build on these previous works by incorporating studies (many of which are in preliminary stages) that integrate petrographic analysis with other methodologies, such as chemical analysis. Among many of the contributions, there is a general theme of using petrography to detect the technological choices of ceramic producers in an effort to determine cultural identity, societal qualities, and/or the

*chaîne opératoire*. Hollenback's contribution (Chapter 11), which pairs ethnographic and macroscopic studies with petrographic analysis to demonstrate the continuity of Hidatsa tradition and identity, despite catastrophic population declines caused by major smallpox epidemics in the eighteenth and nineteenth centuries, is noteworthy. The fact that many of the contributors focus on the culturally-embedded actions of potters shows a general movement within the field of ceramic analysis to look beyond provenance studies and delve into issues of social change (or lack thereof).

In order to answer these questions, each contributor combines ceramic petrography with some other means of study (i.e., chemical, macroscopic, ethnographic, and/or experimental). For example, Morrison et al.'s contribution on Cretan and Anatolian cooking-ware vessels (Chapter 12) successfully replicates ancient fabrics through a combination of macroscopic, petrographic, and experimental data to better understand the choices and limitations of prehistoric potters. Additionally, several other studies—such as those of Ownby (Chapter 2) and Burke et al. (Chapter 7)—make use of petrography to enhance and clarify results from chemical analyses. These studies emphasize the importance of multi-step methodologies to counter the shortcomings inherent in every type of ceramic analysis.

The majority of the chapters are concerned with sites in the Americas (the Tucson Basin, North Dakota, Ecuador, and Peru, to name a few), while a handful are scattered around the rest of the world (Greece, Syria, and China). One particularly interesting study is Stoltman's cross-cultural examination of pottery from China and Belgium (Chapter 8) that shows how inhabitants of very different geographical areas came to identical conclusions about the technological inadequacies of a particular type of raw material (loess temper).

The volume's only major shortcoming is the quality of the images. Microphotographs are useful, but color is essential for fully understanding fabric descriptions. Geological maps would also be clearer. Other images appear out of focus or are very dark; color would be useful for clarifying details. I doubt this is the fault of the editors, however, since color images are extremely expensive to print and inevitably would greatly increase the cost of the book. Nevertheless, it would have been useful.

If none of the projects reported in this book are directly related to your own geographical or temporal area of interest, then I recommend this text as a source of inspiration. As a prehistoric Greek archaeologist, two chapters are relevant to my specialized field (Burke et al. and Morrison et al.), but I found myself considering the projects undertaken by other authors and using them to expand my own research questions. This is the mark of a useful text. The editors have successfully demonstrated the value of petrography—that it doesn't matter where your artifacts are from or what other analyses you pair

your study with—petrography is flexible and enduring enough that it will always be an important tool for understanding past cultures.

## REFERENCES

- Middleton, A., and I. Freestone (eds.)  
1991 Recent Developments in Ceramic Petrology. *British Museum Occasional Papers* 81. London: British Museum Press.
- Quinn, Patrick S. (ed.)  
2010 *Interpreting Silent Artefacts: Petrographic Approaches to Archaeological Ceramics*. Oxford: Archaeopress.



## *The Archaeology, Ethnohistory, and Environment of the Marismas Nacionales*

Michael S. Foster (ed.),  
Salt Lake City, Utah: The University of Utah Press, 2017,  
600 pp., ISBN 978-1-607815-617, \$70.00 (hardcover).

### Reviewed by Kirk Schmitz

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*The Archaeology, Ethnohistory, and Environment of the Marismas Nacionales* is the synthesis of both published and unpublished data from eight years of archaeological survey and excavation, beginning in 1965, in the coastal region of West Mexico. The Marismas Nacionales ecoregion is a section of estuarine mangroves that borders the Pacific Ocean just south of the Gulf of California. The geographic area may not be well known to archaeologists who work in the western United States. This gap in knowledge is to be excused, as Northwest Mexico specifically and the Pacific Coast of West Mexico north of Oaxaca in general are relatively underrepresented in the archaeological literature. This volume represents an excellent step towards remedying that fact.

In Chapter One, Stuart D. Scott describes the modern history of the region, discusses the ecologically-focused theoretical framework within which the project was conceived and carried out, provides a summary

of the work done, and describes the resultant theses and publications that have emerged from the SUNY Buffalo Marismas project. Like other contemporaneous projects (MacNeish's research in the Tehuacan Valley and Flannery's in the Valley of Oaxaca come to mind), the Marismas Nacionales project was comprehensive and multidisciplinary, and included work by geomorphologists, physical anthropologists, and historians. The underlying focus tying these diverse threads of research together was the place humans occupied in the rich but often inhospitable ecology of the swamps and estuaries that straddle the border between the modern Mexican states of Sinaloa and Nayarit.

Chapter Two is a summary by the editor of the volume of the non-anthropological data, which potentially have broad applications for extra-disciplinary research in West Mexico. Foster's summary covers the geophysical history of the West Mexican Coastal Plain since sea level began to rise around 14,500 B.P.; modern floral, faunal, and climatological profiles in the region; and a more fine-grained paleoclimatic analysis of the last 9,000 years, as inferred from palynological data from sediment cores that represent "the oldest record of Holocene sediments along the West Mexican Coastal Plain yet identified" (p. 27).

Foster and Scott revisit the chronology of the region, which was previously accounted for by Classic and Postclassic occupations. Data from 37 previously unreported radiocarbon samples refine the existing