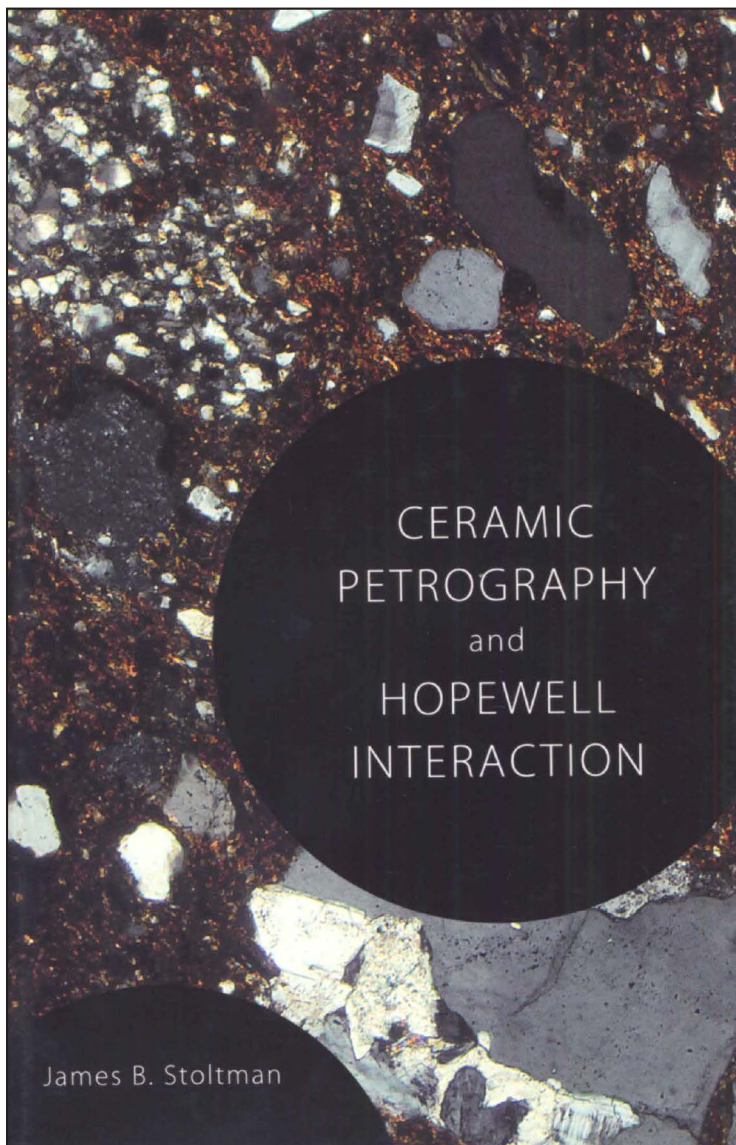


OPEN ACCESS: MAC Book Notes



Published by the University of Alabama Press. 2015. 232 pp., \$69.95 (cloth), \$69.95 (eBook).

Copyright © 2016 Midwest Archaeological Conference, Inc. All rights reserved.

Petrography is the microscopic examination of thin sections of pottery to determine their precise mineralogical composition. In this groundbreaking work, James B. Stoltman applies quantitative as well as qualitative methods to the petrography of Native American ceramics. As explained in *Ceramic Petrography and Hopewell Interaction*, by adapting refinements to the technique of petrography, Stoltman offers a powerful new set of tools that enables fact-based and rigorous identification of the composition and sources of pottery.

Stoltman's subject is the cultural interaction among the Hopewell Interaction Sphere societies of the Ohio Valley region and contemporary peoples of the Southeast. Inferring social and commercial relationships between disparate communities by determining whether objects found in one settlement originated there or elsewhere is a foundational technique of archaeology. The technique, however, rests on the informed but necessarily imperfect visual inspection of objects by archaeologists. Petrography greatly amplifies archaeologists' ability to determine objects' provenance with greater precision and less guesswork.

Using petrography to study a vast quantity of pottery samples sourced from Hopewell communities, Stoltman is able for the first time to establish which items are local, which are local but atypical, and which originated elsewhere. Another exciting possibility with petrography is to further determine the home source of objects that came from afar. Thus, combining traditional qualitative techniques with a wealth of new quantitative data, *Ceramic Petrography and Hopewell Interaction* offers a map of social and trade relationships among communities within and beyond the Hopewell Interaction Sphere with much greater precision and confidence than in the past.

Ceramic Petrography and Hopewell Interaction provides a clear and concise explanation of petrographic methods, Stoltman's findings about Hopewell and southeastern ceramics in various sites, and the fascinating discovery that visits to Hopewell centers by southeastern Native Americans were not only for trade purposes but more for such purposes as pilgrimages, vision- and power-questing, healing, and the acquisition of knowledge.

Contents

List of Illustrations	ix
Acknowledgments	xvii
Introduction	i
1. Methodology	8
2. Ohio Hopewell	17
3. The Mann Site in Posey County, Indiana	70
4. Southern Illinois	91
5. The Blue Ridge Province of North Carolina and Tennessee	96
6. The Appalachian Plateau and Ridge and Valley Provinces of Northwest Georgia	114
7. The Coastal Plain of Georgia and Florida	128
8. Limestone-Tempered Pottery in Middle Woodland Contexts in the Southeast and the Ohio Valley Region	138
9. Pinson Mounds Revisited	151
10. The Sources of the "Possibly Nonlocal" Vessels Recovered from the Ohio Valley Sites	161
11. Summary and Conclusions	187
References Cited	195
Index	205

Illustrations

FIGURES

- 1.1. Two views of thin section 33-286 (at 10X) from the Turner Site showing differences between views under plane-polarized light versus crossed polars. 10
- 2.1. Map showing locations of all sites in Ohio for which thin section samples were analyzed in this study. 18
- 2.2. Examples of Hopewellian-series sherds from the Liberty Site (Harness). 19
- 2.3. Selected Southeastern-series sherds from Seip. 20
- 2.4. Photomicrograph of granite temper in Seip vessel 33-201 taken at 10X magnification under crossed polars. 39
- 2.5. Photomicrograph of granite and limestone tempers in Vessel 33-100 (McGraw Plain) from Mound City taken at 10X magnification under crossed polars. 41
- 2.6. Ternary graph showing the mean paste values for all Ohio sites by ceramic series plotted against the clay recovered beneath the Hopeton earthworks and the three Minford clay samples. 45
- 2.7. Ternary graph showing the paste values for 17 sediment samples from the Chillicothe region plotted against the paste mean for 122 local Hopewell vessels. 48
- 2.8. Ternary graph showing the paste values for each of the 19 Turner-series vessels from Ohio sites plus the tetrapodal base from Seip plotted against the sediment recovered from beneath the Hopeton Earthworks. 50
- 2.9. Photomicrograph of metagranite temper in local Vessel 33-291 from Marietta taken at 10X magnification under crossed polars. 53
- 2.10. Photomicrograph of grit-tempered grog in local Vessel 33-211 from Tremper taken at 10X magnification under crossed polars. 58

x / Illustrations

- 2.11. Three rocker-stamped sherds from Icehouse Bottom, each associated with its thin section number. 67
- 2.12. Photomicrograph of granite-tempered Vessel 40-8 from Icehouse Bottom taken at 10X magnification under crossed polars. 67
- 3.1. Map showing the locations of sites outside of Ohio for which thin section analyses were conducted in this study. 71
- 3.2. Photomicrograph of grog temper in local Vessel No. 1 from the Mann Site taken at 10X magnification under plane-polarized light. 73
- 3.3. Photomicrograph of grog temper in Vessel 31-26 from Garden Creek taken at 25X magnification under crossed polars. 85
- 3.4. Photomicrograph of grog temper in red-filmed Vessel 40-66 from Pinson Mounds taken at 10X magnification under plane polars. 86
- 5.1. Photomicrograph of local Connestee Simple-Stamped Vessel 31-7 from Garden Creek Mound 2 taken at 10X magnification. 99
- 5.2. Eight Hopewell-series sherds from Garden Creek Mound 2. 102
- 5.3. Photomicrograph of rocker-stamped Vessel 31-16 from Garden Creek Mound 2 taken at 10X magnification under plane-polarized light. 103
- 5.4. A sample of six Connestee Simple-Stamped sherds from Icehouse Bottom. 104
- 5.5. Photomicrograph of local Connestee Simple-Stamped Vessel 400-3 from Icehouse Bottom taken at 10X magnification under crossed polars. 108
- 5.6. Photomicrograph of Connestee Simple-Stamped Vessel 40-12 from Icehouse Bottom taken at 10X magnification under plane polars. 110
- 5.7. Photomicrograph of sand-tempered sherd No. 40-7, probably of local origin, from Icehouse Bottom taken at 10X magnification under crossed polars. 111
- 5.8. Photomicrograph of Simple-Stamped Vessel 33-193 recovered at Seip and believed to be derived from Icehouse Bottom. 111
- 6.1. Photomicrograph of Simple-Stamped Vessel 9-4 from Tunacunnhee showing multiple grains of fissured feldspars. 117
- 6.2. Photomicrograph of undecorated vessel 9-13 from Tunacunnhee taken at 10X magnification under crossed polars. 118
- 6.3. Selected sherds from the Leake site showing the stylistic diversity present at the site. 119
- 6.4. Photomicrographs of four Simple-Stamped vessels from the Leake site, each representing a different petrographic class. 123

- 7.1. Photomicrograph of sand-tempered, Simple-Stamped Vessel 9-26 from Mandeville taken at 10X magnification under crossed polars. 131
- 7.2. Photomicrograph of Simple-Stamped Vessel 8-12 from Crystal River taken at 10X magnification under crossed polars. 136
- 8.1. Photomicrograph of limestone-tempered Vessel 40-23 from Icehouse Bottom taken at 10X magnification under crossed polars. 141
- 8.2. Photomicrograph of limestone-tempered Vessel 40-65 from Pinson Mounds taken at 10X magnification under crossed polars. 145
- 9.1. Photomicrograph of Baldwin Plain Vessel 40-48 from Pinson Mounds taken at 10X magnification under crossed polars. 153
- 9.2. Photomicrograph of cordmarked vessel 40-43 from Pinson Mounds taken at 25X magnification under crossed polars. 154
- 9.3. Photomicrograph of quartzite temper in check-stamped Vessel 40-70 from Pinson Mounds taken at 10X magnification under crossed polars. 159
- 10.1. Photomicrograph of Simple-Stamped Vessel 33-110 with "Grit A" taken at 10X magnification under crossed polars. 178

TABLES

- 2.1. Frequencies of Thin-Sectioned Sherds by Ceramic Series from Ohio Hopewell Sites 21
- 2.2. Body and Paste Values by Vessel for the Hopewellian Series at Liberty 25
- 2.3. Body and Paste Values by Vessel for the Scioto Series at Liberty 26
- 2.4. Body and Paste Values by Vessel for Turner Check-Stamped and Turner Simple-Stamped A at Liberty 28
- 2.5. Body and Paste Values by Vessel for the Turner and Hopewellian Series at Mound City 29
- 2.6. Body and Paste Values by Vessel for the Scioto Series at Mound City 30
- 2.7. Body and Paste Values by Vessel for the Hopewellian and Turner Series at the Hopewell Site 32
- 2.8. Body and Paste Values by Vessel for the Scioto Series at the Hopewell Site 33
- 2.9. Body and Paste Values by Vessel for the Hopewellian Series at Seip 34
- 2.10. Body and Paste Values by Vessel for the Scioto Series at Seip 35
- 2.11. Body and Paste Values by Vessel for Turner Check-Stamped and Turner Simple-Stamped A at Seip 36

xii / Illustrations

- 2.12. Body and Paste Values by Vessel for the Hopewellian and Scioto Series at McGraw 37
- 2.13. Mean Body Values \pm One Standard Deviation for Grit-Tempered Hopewell, Scioto, and Turner (Southeastern) Series Vessels for Each of the Five Sites in the Chillicothe Region Plus for All Vessels of the Same Series for All Five Sites Combined 42
- 2.14. Means \pm One Standard Deviation for Paste Values for Local Vessels by Series from Each of the Five Chillicothe-Region Sites 44
- 2.15. Bulk Compositions/Paste Values for Local Sediments in the Chillicothe Region 47
- 2.16. Body and Paste Values by Vessel from Two Sites in Muskingum County, Ohio, the Capitolium Mound at Marietta, and Knight Hollow Rockshelter 52
- 2.17. Body and Paste Values by Vessel from 33LL252 Near the Newark Earthworks 54
- 2.18. Body and Paste Values by Vessel for Tremper Mound 56
- 2.19. Body and Paste Values for the Grit-Tempered Vessels by Ceramic Series at the Turner Site 60
- 2.20. Paste Values for All [n=18] Limestone-Tempered Vessels from Ohio vs. Local Paste Two-Sigma Ranges for Each Site 63
- 2.21. Summary of Ohio Hopewell Paste Values (Means and Standard Deviations) by Site 65
- 2.22. Paste and Body Values for Three Grit-Tempered Vessels Recovered Outside Ohio Considered Probable Imports from Ohio Compared with Mean Hopewellian-Series Values for the Chillicothe Region 68
- 3.1. Frequencies of Thin-Sectioned Vessels Analyzed from the Mann Site by Series, Type, and Temper 72
- 3.2. Body and Paste Values by Vessel for the Hopewellian Series at the Mann Site 76
- 3.3. Body and Paste Values for Cordmarked and Plain Vessels at the Mann Site 78
- 3.4. Body and Paste Values by Vessel for the Complicated Stamped Series from the Mann Site 79
- 3.5. Individual Body and Paste Values for Coarse Simple-Stamped Vessels from the Mann Site 80
- 3.6. Bulk Compositions of Natural Sediments from the Mann Site Vicinity 81

- 3.7. Paste Values for Five Limestone-Tempered Vessels and the Chert-Tempered Hopewell Rim from the Mann Site Compared with the Two-Sigma Paste Ranges for the Local Mann Pottery 83
- 3.8. Body and Paste Values for Seven Grog-Tempered Vessels Recognized as Intrusive to Their Respective Sites Compared with the Two-Sigma Body and Paste Ranges for Local Mann Pottery 84
- 3.9. Body and Paste Values for Marksville Incised Vessels from the Yazoo Basin of Mississippi Compared with Red-Slipped Vessel 40-66 from Pinson Mounds 88
- 4.1. Body and Paste Values by Vessel for 11Mx109 Pottery Compared with Mann Means 94
- 5.1. Frequencies of Thin-Sectioned Vessels by Ceramic Series from Garden Creek Mound 2 97
- 5.2. Compositional Data for Connestee-Series Vessels from Garden Creek Mound 2 100
- 5.3. Compositional Data for "Hopewell" and Other Stylistically Nonlocal Vessels from Garden Creek Mound 2 101
- 5.4. Frequencies of Thin-Sectioned Vessels by Ceramic Series from Icehouse Bottom 105
- 5.5. Bulk and Mineralogical Compositional Data for Connestee- and Hopewell-Series Vessels from Icehouse Bottom 106
- 5.6. Bulk Composition and Mineralogy of Two Vessels from Icehouse Bottom Believed to Be Derived from Garden Creek Compared with the Two-Sigma Ranges for Local Connestee Vessels at Garden Creek 109
- 5.7. Bulk Composition and Mineralogy of Two Connestee Simple-Stamped Vessels from Seip Believed to Be Derived from Icehouse Bottom Compared with the Two-Sigma Ranges for Connestee-Series Vessels from Icehouse Bottom 112
- 6.1. Frequencies of Thin-Sectioned Vessels by Temper Group and Surface Treatment from the Tunacunnhee Site 115
- 6.2. Bulk Composition and Mineralogy of Local Grit-Tempered Vessels from Tunacunnhee 116
- 6.3. Means \pm One Standard Deviation for Bulk and Mineralogical Composition of Leake Pottery by Typological Class 121
- 6.4. Means \pm One Standard Deviation for Bulk and Mineralogical Composition of Leake Fine-Grit and/or Sand-Tempered Pottery by Petrographic Class 125

xiv / Illustrations

- 6.5. Frequencies of Thin-Sectioned Vessels by Type vs. Petrographic Class at Leake 126
- 7.1. Bulk and Mineralogical Composition of 10 Vessels from Mandeville (9Cy1) 130
- 7.2. Bulk and Mineralogical Composition of Six Vessels from Kolomoki (9Er1) 132
- 7.3. Bulk and Mineralogical Composition of 11 Vessels from Crystal River (8Ci1) 135
- 8.1. Body and Paste Values for 13 Limestone-Tempered Vessels from Icehouse Bottom 140
- 8.2. Body and Paste Values for Seven Limestone-Tempered Vessels Each from Tunacunnhee and Leake 142
- 8.3. Body and Paste Values for Two Limestone-Tempered Vessels from Pinson Mounds 144
- 8.4. Paste and Body Values for All [n=24] Limestone-Tempered Vessels from Ohio Valley Sites 148
- 9.1. Bulk and Mineralogical Composition of 14 Stylistically Local, Sand-Tempered Vessels from Pinson Mounds 152
- 9.2. Bulk and Mineralogical Composition of 11 Stylistically Nonlocal, Sand-Tempered Vessels Compared to the Two-Sigma Range for Local Vessels from Pinson Mounds 155
- 9.3. Bulk and Mineralogical Composition of Seven Non-Sand-Tempered Vessels from Pinson Mounds 157
- 10.1. Mean Sand Size Indices and Sand Density Values [Grains/100 1-mm Counts] for Seven Major Middle Woodland Sites with Grit-Tempered Ceramics in Ohio 162
- 10.2. Mean Sand Size Indices and Sand Density Values [Grains/100 1-mm Counts] for Eight Major Middle Woodland Sites in the Southeast 163
- 10.3. Bulk and Mineralogical Composition of Four "Possibly Nonlocal" Vessels from Ohio and One from Leake Characterized by Monocrystalline Quartz Predominance Compared with the Two-Sigma Ranges for the Mandeville Site 167
- 10.4. Bulk and Mineralogical Composition of Nine "Possibly Nonlocal" Vessels from the Ohio Valley Region Compared with the Monocrystalline-Quartz-Dominant Petrographic Class at Leake 169
- 10.5. Bulk and Mineralogical Composition of Four "Possibly Nonlocal" Vessels with Prominence of Polycrystalline Grains from the Ohio Valley

- Region Plus Two from Bentley, Kentucky, Contrasted with the Two-Sigma Ranges for the Metagranite Petrographic Class from Leake 171
- 10.6. Bulk and Mineralogical Composition of Three Vessels from Northern Kentucky Characterized by the Metaquartzite Predominance Contrasted with the Two-Sigma Ranges for the Metaquartzite-Predominant Classes at Tunacunnhee and Leake 172
- 10.7. Bulk and Mineralogical Composition of Six "Possibly Nonlocal" Vessels from the Ohio Valley Region Characterized by Feldspar/Mafic/Mica (FMM) Predominance Contrasted with the Two-Sigma Ranges for the Connestee Series at Garden Creek and the Amphibole-Rich Class at Leake 175
- 10.8. Bulk Composition and Mineralogy for Ohio Vessels with "Grit A" 176
- 10.9. Bulk Composition and Mineralogy for Vessels from Southeastern Sites with "Grit A" 179
- 10.10. Bulk and Mineralogical Composition of 13 "Possibly Nonlocal" Vessels from Ohio Valley Sites Plus One Vessel Each from Amburgey and Crystal River Compared with the Composite Petrographic Class at Leake 182
- 10.11. Numbers of Vessels Regarded as Foreign Recovered at Specific Sites Cross-Tabulated with the Suspected Sites from Which Those Vessels Originated 184

ARCHAEOLOGY / ANTHROPOLOGY / NATIVE AMERICA

Ceramic Petrography and Hopewell Interaction is a highly innovative study employing petrography to reveal previously undetectable evidence of cultural interaction among Hopewell societies of the Ohio Valley region and the contemporary peoples of the Southeast.

"*Ceramic Petrography and Hopewell Interaction* is archaeological analysis and interpretation of the highest order. It is a monumental work and cements Stoltman's reputation as being among the very best in the profession. The book is a must-own-and-read volume for prehistoric archaeologists in the eastern United States and beyond."

—ROBERT C. MAINFORT JR., author of *Pinson Mounds: Middle Woodland Ceremonialism in the Midsouth* and coeditor of *Mississippian Mortuary Practices: Beyond Hierarchy and the Representationist Perspective*

"In beautifully written, concise fashion, Stoltman presents the results of years of comparative research with Hopewell and Hopewell-like pottery from Ohio and from many sites in the greater Southeast. The petrographic methods he has developed offer a logical and elegant technique for objectively classifying 'local' ware and for differentiating truly nonlocal wares from idiosyncratic local products. *Ceramic Petrography and Hopewell Interaction* will be of fundamental significance to archaeologists interested in the Woodland period. It also has broad significance to researchers who employ pottery to discern exchange patterns and provenance."

—ANN S. CORDELL, ceramic technology laboratory archaeologist at the Florida Museum of Natural History

The University of Alabama Press
Tuscaloosa, Alabama 35487-0380
www.uapress.ua.edu

