



POTTERY AND CHRONOLOGY AT

ANGEL

SHERRI L. HILGEMAN

Pottery and Chronology at ANGEL

Sherri L. Hilgeman

THE UNIVERSITY OF ALABAMA PRESS

Tuscaloosa and London

Copyright © 2000
The University of Alabama Press
Tuscaloosa, Alabama 35487-0380
All rights reserved
Manufactured in the United States of America

1 2 3 4 5 6 7 8 9 08 07 06 05 04 03 02 01 00

∞

The paper on which this book is printed meets the minimum requirements of American National Standard for Information Science—Permanence of Paper for Printed Library Materials, ANSI Z39.48-1984.

Library of Congress Cataloging-in-Publication Data

Hilgeman, Sherri Lynn, 1958–
Pottery and chronology at Angel / Sherri L. Hilgeman.
p. cm.

Includes bibliographical references and index.

Contents: Introduction—Pottery studies in Mississippian archaeology—Decorated plates, bottles, bowls, and jars—Closed and open handles—Angel negative painted plates—Chronology of the Angel site and phase.

ISBN 0-8173-1035-5 (pbk. : alk. paper)

1. Angel Mounds State Historic Site (Ind.) 2. Indians of North America—Indiana—Antiquities. 3. Mississippian culture—Indiana. 4. Indiana—Antiquities. I. Title.

E78.153 H56 2000
977.2'33—dc21

99-050763

British Library Cataloguing-in-Publication Data available

Acknowledgments

I found my first shell-tempered potsherd when I was about ten years old. It came from a hillock in a field that was used to grow strawberry plants less than a half mile from my house. The hillock was also the location of a small Mississippian farmstead or hamlet overlooking the East Fork White River, in an equally small farming hamlet (population fifty-six in 1967) in southwestern Indiana. When I asked my grandmother or grandfather, I forget which, what it was, the answer was a piece of asphalt. (The road that ran through the site was rock.) That site and a child's book (with a yellow cover; I forget author and title) on famous archaeological discoveries were the beginnings of my interest in archaeology and the people who had lived "around here" hundreds or thousands of years ago. I still visit the site occasionally, just to make sure it is okay.

This book is a revised version of a dissertation completed at the Graduate School of Indiana University, Bloomington. I wish to thank the members of my dissertation committee for uncounted hours of conversation and help: Christopher S. Peebles, R. Berle Clay, Karen D. Vitelli, Robert J. Meier, and Daniel C. Knudsen. Chris Peebles made available to me the resources of the Glenn A. Black Laboratory of Archaeology (GBL) at Indiana University. Berle Clay encouraged me to return to the study of Mississippian and pottery after a brief excursion into Woodland and lithics. K. D. Vitelli seemed to enjoy hearing about a pile of potsherds other than her own Neolithic sherds. Dan Knudsen kept my usage of statistics reasonable. Bob Meier let me ramble on about something other than potsherds. James Kellar, director emeritus of the Glenn A. Black Laboratory of Archaeology, helped me understand many details of the history of Angel archaeology and was always willing to discuss opera and IU basketball, in equal measure, whenever I needed a break.

My student colleagues at the GBL—Ed Smith, Mark Schurr, Brian Redmond, Shawn French, Chris Borstel, Leslie Bush, Steve Ball, and Bret Ruby—were willing to discuss anything from the minutiae of a single sherd to more grandiose revisionist archaeological theory. Minnie Headdy helped me with the administrative issues, and she and Ed were also participants in many welcome basketball discussions.

A heartfelt thank you is due to Rachael Freyman, who produced the majority of the sherd illustrations, including the wonderful (and popular!) assemblage reconstruction in Chapter 6. This document is far more valuable because

of Rae's illustrations. Another artist who contributed to this volume is Richard Montgomery, artist during the WPA project, who completed the whole vessel drawings. Karin Stafford unpacked, from boxes approximately $11 \times 11 \times 17$ inches and filled to the brim with sherds, approximately one-third of the sherds—almost all of the closed and open handles—I studied. The year and a half Karin helped me represented a considerable amount of backbreaking labor and dedication on her part.

A number of scholars have also been sources of insight. They are William Autry, Raymond DeMallie, John Kelly, Kit Wesler, Kenneth Carstens, Lawrence Conrad, Jon Muller, Brian Butler, and Barry Lewis. Kit Wesler and Ken Carstens allowed me to study sherds from Chambers and Stone housed at Murray State University, and Larry Conrad allowed me to study the deep rim plate sherds from Crable housed at Western Illinois University Archaeological Laboratory. I also want to thank Barry Lewis, William Autry, Chris Peebles, and Prudence Rice, who reviewed the dissertation and made suggestions that helped transform it into a book manuscript, and Judith Knight and the two anonymous reviewers who helped me complete the transformation.

My family—parents, brother, and nephews, Jon and Andrew—have been very patient over the years, and I want to thank them for all the love and support.

Finally, I want to dedicate this book to Fran Weinberg. Every grad student should have a skilled volunteer like Fran. She helped, anywhere from eight to twenty hours a week, throughout the academic year and for many weeks in the summer, for almost the entire time it took to finish the dissertation. She sorted, resorted, numbered, listed, packed, unpacked, and repacked the twenty-two-thousand-plus piece analytic collection until she knew the sherds as well as I. And to this day she remains a good friend and favorite shopping buddy. Thanks, Fran.

Pottery and Chronology at Angel

Contents

List of Illustrations vii

Acknowledgments xiii

1. Introduction 1
2. Pottery Studies in Mississippian Archaeology 20
3. Decorated Plates, Bottles, Bowls, and Jars 33
4. Closed and Open Handles 127
5. Angel Negative Painted Plates 164
6. Chronology of the Angel Site and Phase 204
7. Angel in Regional Perspective 234

Appendix A: Summary of the Excavations at Angel: 1939–1989 245

Appendix B: Radiocarbon and Thermoluminescence Dates
for the Angel Site and Phase 253

Appendix C: Radiocarbon Dates from the Kincaid—Lower
Tennessee-Cumberland Region 259

Appendix D: Catalog and Sherd Numbers of the Illustrated
Specimens 263

References Cited 271

Index 287

Illustrations

Figures

- 1.1 The Angel site in the lower Ohio Valley 2
- 1.2 The Angel site, 12Vg1 5
- 1.3 Eastern village area excavation 10
- 1.4 Northeastern stockade excavation 12
- 1.5 Mound F excavation 15
- 1.6 Mound I (O-13-D/P-13-C) excavation 16
- 1.7 Angel phase site distribution on the Ohio River 18
- 2.1 Dendritic sorting key for the defined pottery types in the Angel assemblage 32
- 3.1 Plate forms 38
- 3.2 Plate measurement conventions 39
- 3.3 Frequency distribution of standard plate and deep rim plate rim widths 41
- 3.4 Frequency distribution of plate orifice diameters (all plate forms) 42
- 3.5 Carson Red on Buff and O'Byam Incised plate sherds 47
- 3.6 O'Byam Incised, *variety Adams*, short rim plate 49
- 3.7 O'Byam Incised, *variety Adams*, short rim plate 50
- 3.8 O'Byam Incised, *variety Adams* and *variety O'Byam*, plate sherds 51
- 3.9 Vanderburgh Stamped, *variety Vanderburgh*, short rim plate sherds 52
- 3.10 Vanderburgh Stamped, *variety Vanderburgh*, short rim plate sherds 53
- 3.11 Vanderburgh Stamped, *variety Vanderburgh*, short rim plate sherds 54
- 3.12 Symmetrical scalloped lips and asymmetrical scalloped lips on plate sherds 56
- 3.13 Interior thickening strips on plate sherds 57
- 3.14 Interior thickening strips and modeling on plate sherds 58
- 3.15 Deep rim pedestal plate 59
- 3.16 Bottle forms 61

3.17	Frequency distribution of bottle orifice diameters and scatterplot of bottle neck height by orifice diameters	62
3.18	Bottle and bowl measurement conventions	63
3.19	Kincaid Negative Painted, <i>variety Massac</i> , narrow neck bottle	65
3.20	Kincaid Negative Painted, <i>variety Massac</i> , narrow neck bottle	66
3.21	Narrow neck bottle with jar-form body	67
3.22	Nashville Negative Painted female effigy bottle	68
3.23	Old Town Red, <i>variety Knight</i> , owl effigy bottle	69
3.24	Kincaid Negative Painted, Sikeston Negative Painted, and Carson Red on Buff painted bottle sherds	71
3.25	Kincaid Negative Painted, <i>variety Massac</i> , painted bottle sherds	72
3.26	Hooded/blank-face bottle heads, human effigy bottle torso, and Walls Engraved-like bottle sherds	74
3.27	Frequency distribution of bowl orifice diameters	76
3.28	Bowl forms	77
3.29	Colander sherds	78
3.30	Sikeston Negative Painted and Kincaid Negative Painted bowl sherds	81
3.31	Kincaid Negative Painted, <i>variety Kincaid</i> , beaver tail effigy restricted bowl	82
3.32	Mound Place Incised, <i>variety Mound Place</i> , bowl sherds	83
3.33	Mound Place Incised, <i>variety Chickasawba</i> , bowl sherds	84
3.34	Beaded bowl rim sherds	86
3.35	Notched applique strips and asymmetrical knobbed lips on bowl rim sherds	87
3.36	Human effigies	90
3.37	Human effigies	91
3.38	Mammal effigies	92
3.39	Mammal effigies	93
3.40	Owl and raptor effigies	94
3.41	Duck effigies	95
3.42	Bird effigies	96
3.43	Bird effigies	97
3.44	Frog effigies	99
3.45	Fish effigies	100
3.46	Fish effigies	101
3.47	Partial conch shell effigy bowl	102
3.48	Partial conch shell effigy bowl	103
3.49	Conch shell or gourd effigy bowls and sherds	104
3.50	Jar forms	106
3.51	Frequency distribution of jar rim angles	107
3.52	Jar measurement conventions	108

3.53	Frequency distribution of effective jar orifice diameters	109
3.54	Frequency distribution of jar rim lengths	110
3.55	Regression of jar rim length on effective jar orifice diameters	111
3.56	Ramey Incised, <i>variety Green River</i> , jar sherds	112
3.57	Matthews Incised, <i>variety Matthews</i> , and Beckwith Incised, <i>variety unspecified</i> , jar sherds	113
3.58	Matthews Incised, <i>variety Manly</i> , jar sherds	114
3.59	Barton Incised, <i>variety Barton</i> , and miscellaneous incised jar sherds	116
3.60	Parkin Punctated, <i>variety Parkin</i> , standard jar	118
3.61	Parkin Punctated, <i>variety Parkin</i> , and Pouncey Pinched, <i>variety Newburgh</i> , jar sherds	119
3.62	Oliver decorated and Wolf Creek Check Stamped jar sherds	120
3.63	McKee Island Cord Marked and Cobb Island Complicated Stamped jar sherds	122
3.64	Yankeetown decorated, dimpled shoulder, and frog(?) effigy jar sherds	124
3.65	Standard jar with dimpled shoulder	125
4.1	Closed handle measurement conventions	128
4.2	Frequency distribution of closed handle top width/bottom width ratios	130
4.3	Frequency of closed handle middle thickness/middle width ratios	131
4.4	Loop handles	132
4.5	Loop and narrow intermediate handles	133
4.6	Narrow intermediate handles	134
4.7	Narrow and wide intermediate handles	135
4.8	Wide intermediate handles	136
4.9	Strap handles	137
4.10	Strap handles	138
4.11	Strap handles	139
4.12	Strap handles	140
4.13	Frequency distribution of closed handle heights	141
4.14	Regression of closed handle height on jar rim length	142
4.15	Regression of closed handle height on effective jar orifice diameter	143
4.16	Typical closed handle attachment pattern and a loop handle depending from a triangular lug	148
4.17	Percentage distribution of closed handle top modifications	149
4.18	Closed handle shape (middle thickness/middle width ratio) by handle top modifications	150
4.19	Cross-shaped handles	151
4.20	Strap handle body and base modifications	152
4.21	Standard jar with handlike handle bases	154

4.22	Beaker and tab handles	155
4.23	Jar and bowl rim sherds with nodes	156
4.24	Lug (open handle) measurement conventions	157
4.25	Frequency distribution of lug vertical thickness/horizontal width ratios	158
4.26	Jar rim sherds with round-to-oval and bifurcated lugs	159
4.27	Round-to-oval, crenelated, and notched trianguloid lugs	160
4.28	Bowl rim sherds with rectanguloid and trianguloid lugs	161
5.1	Basic line-filled bounded triangular designs	175
5.2	Design configurations that fill the bounded triangular areas	176
5.3	Filled bounded triangular areas	177
5.4	Southeastern Ceremonial Complex cross-in-circle and suncircle motifs	178
5.5	Common central elements and ring and ray sets	179
5.6	Design layouts with alternating cross-in-circles and bounded triangular areas	180
5.7	Southeastern Ceremonial Complex “elaborate” suncircle motifs	181
5.8	Southeastern Ceremonial Complex bilobed arrow, woodpecker, striped/spotted pole motifs	183
5.9	Hybrid design layout and uninterpretable motifs	184
5.10	Concentric circle design layouts and uninterpretable motifs	185
5.11	A line-filled, bounded triangular area plate	186
5.12	A line-filled, bounded triangular area plate with a negative band	187
5.13	A line-filled, bounded triangular area plate	188
5.14	A line-filled, bounded triangular area plate with a negative band	189
5.15	A bounded triangular area plate	190
5.16	A concentric circle layout plate	191
5.17	A unique design layout plate	192
5.18	A cruciform plate	193
5.19	A cruciform plate	194
5.20	A hybrid line-filled triangle/cruciform plate	195
5.21	A cruciform plate	196
5.22	A cruciform plate	197
5.23	An eight-part (cruciform) design layout plate	198
5.24	An eight-part (cruciform) design layout plate	199
6.1	Mississippian sites in the lower Ohio Valley region	205
6.2	Kincaid and Black Bottom sites radiocarbon dates	208
6.3	Lower Tennessee/Cumberland radiocarbon dates	209
6.4	Estimated duration of diagnostic pottery types and attributes during the A.D. 1100 to 1500 time period	215
6.5	Angel seriation order	220
6.6	Angel phase radiocarbon and thermoluminescence dates	225

- 6.7 Hypothetical Stephan-Steinkamp (Angel 1), Angel 2, and Angel 3
pottery assemblages 228
- 6.8 Angel radiocarbon dates 230
- 6.9 Excavated areas with Angel 2 phase materials and Angel 3
phase materials 231

Tables

- 2.1 Angel Artifact Assemblage 26
- 2.2 Analytic Sample by Nature of Excavation and Subdivision 28
- 3.1 Summary Tabulation of Sherds in Analytic Sample by
Ware and Type 36
- 3.2 Mean Plate Diameter by Plate Forms 43
- 3.3 Mean Plate Rim Angle by Standard and Deep Rim
Plate Categories 44
- 3.4 Summary Frequencies for the Decorated Plates 45
- 3.5 Dimensions of Narrow and Wide Neck Bottles 64
- 3.6 Summary Frequencies for the Decorated Bottles 70
- 3.7 Summary Frequencies for the Decorated Bowls 79
- 3.8 Decorated Sherds in the Angel Pottery Assemblage 126
- 4.1 Mean Jar Rim Lengths by Closed Handle Forms 144
- 4.2 Cross-Tabulation of Jar Rim Lengths by Closed Handle Forms 144
- 4.3 Mean Handle Height by Closed Handle Form 145
- 4.4 Cross-Tabulation of Handle Height by Closed Handle Forms 145
- 4.5 Summary Frequencies of Handle Attributes by Handle Shape 146
- 4.6 Mean Jar Orifice Diameters by Closed or Open Handle Forms 162
- 4.7 Cross-Tabulation of Jar Sizes by Closed or Open Handle Forms 163
- 5.1 Negative Painted Sherds by Context and Subdivision 168
- 5.2 Relationship of Plate Layouts, Elements, and Motifs and
Plate Form 200
- 6.1 Pottery Characteristics of Orr's Early and Late Periods 207
- 6.2 Pottery Types, Morphologies, and Attributes Utilized
in the Seriation 218
- 6.3 Features and Excavation Block Levels Used in the Seriation 219
- 6.4 Summary Counts and Percentages for Some Decorated Pottery Types
in the Seriated Contexts 223

1 Introduction

The prehistoric town of Angel, located on the Ohio River in Vanderburgh County, Indiana, was the central community of a Late Prehistoric, Mississippian Tradition chiefdom. It was one of four such towns, larger and smaller, in the lower Ohio Valley (Figure 1.1). Angel has been the subject of professional archaeological scrutiny for more than a half century. After its purchase by the Indiana Historical Society, Glenn A. Black, archaeologist for the society, excavated at the site from 1939 until his death in 1964. These and subsequent excavations examined habitation areas, substructure pyramidal mounds, stockade (defensive wall) lines, and the plaza within the one-hundred-acre town. Approximately 4 percent of the area within the outer stockade line was excavated, and more than two million artifacts were collected.

In addition to Black's (1967) own report on the site, other studies have summarized the more recent periods of excavation (Ball, Senkel, and French 1990; Schurr 1989a, 1992; Wolforth 1983), various artifact classes (Curry 1950; Kellar 1967; Rachlin 1954), the biology of the prehistoric inhabitants (Hilgeman 1988a; Johnston 1957; Schurr 1989a), and the settlement pattern of the Angel system (Green 1977; Green and Munson 1978; Honerkamp 1975; Power 1976).

These many studies have provided a great deal of information concerning the Angel society; however, they lacked the chronological dimension with which to examine the growth and decline of Angel. For many years, very few radiocarbon dates were available, and there was no pottery or other artifactual chronology in place. Researchers were forced to treat the three or four centuries, from A.D. 1100 to 1500, generally thought to encompass the beginning and end of Angel, as a single chronological unit. From a valley-wide perspective, Lewis (1991:293) suggests that this "monolithic" view of Angel hampers cultural-historical and processual studies on the Late Prehistoric societies of the lower Ohio Valley because it has not been possible to incorporate developments within the Angel society into a valley-wide synthesis.

This volume is the result of a research project designed to create a pottery chronology absolutely dated with a series of radiocarbon assays. With this chronology it is possible to divide the occupation of the Angel site into a series of recognizable cultural-historical phases. The results of the project are presented in the seven chapters of this volume. This chapter concludes with a summary description of the Angel site and a little of what is known about the prehistoric Angel society. Chapter 2 considers the contributions that pottery

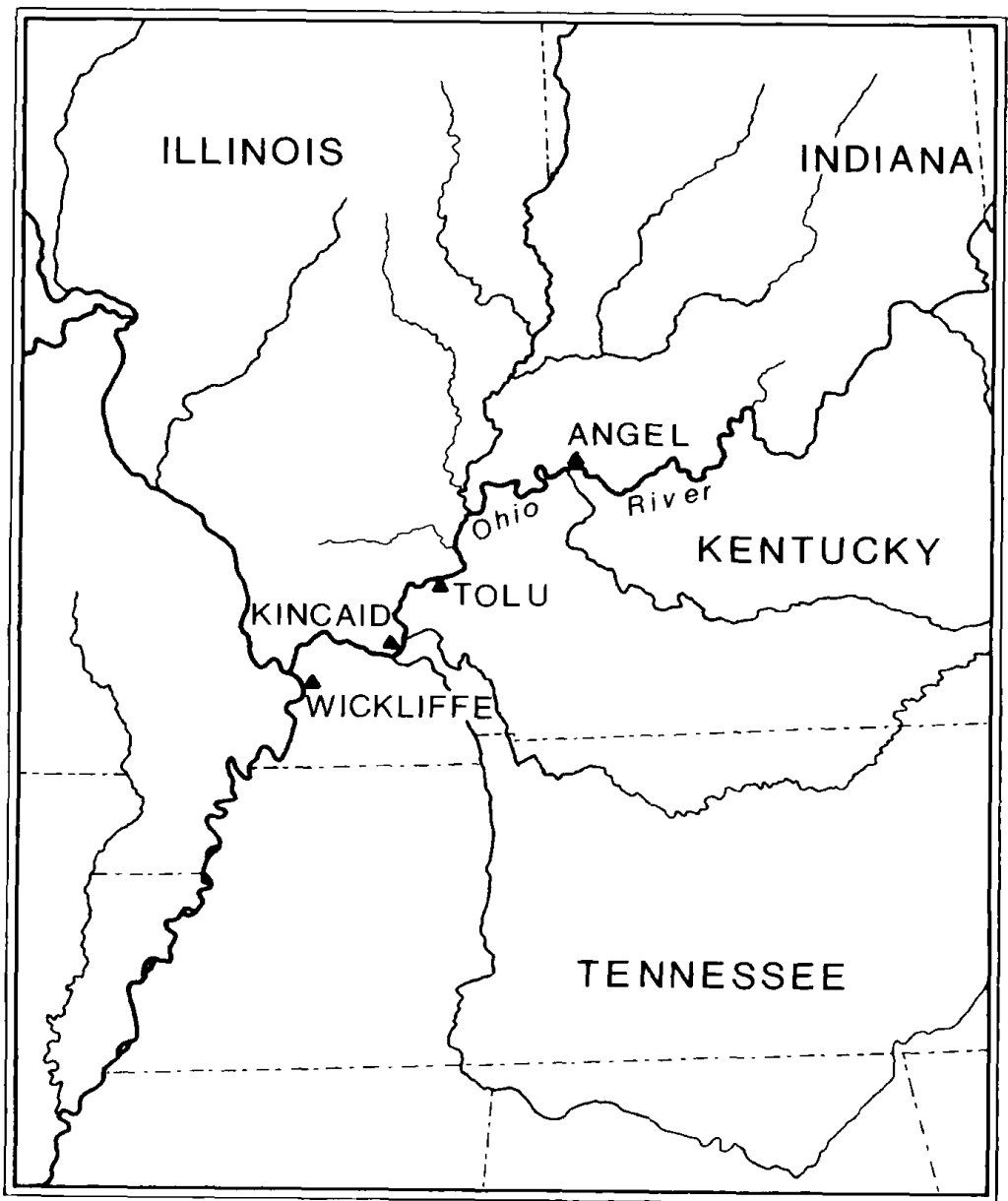


Figure 1.1. The Angel site in the lower Ohio Valley.

studies have made in studying societies such as Angel. Chapters 3 through 5 describe a subset of the Angel pottery assemblage.

Chapter 3 presents a formal classification of the decorated subset of the Angel pottery assemblage. The word “decorated” is used very broadly in this volume. Not only does “decorated” include treatments such as incising, painting, punctating, or modeling, herein it also includes all attachments such as closed and open handles. “Undecorated” or “plain” includes all rim and body sherds that have plain, cord-marked, or fabric-impressed surfaces and no at-

tachments. The decorated pieces are those that have proved useful in creating pottery chronologies for late prehistoric sites elsewhere in the Eastern Woodlands. The chapter is divided into four major sections, each of which covers one of the major Mississippian vessel forms—plates, bottles, bowls, and jars. The fifth Mississippian vessel form, the pan or saltpan, is not included in the analysis or descriptions. Pans have plain or fabric-impressed exterior surfaces and, at least at Angel, do not have handles or other attachments. Each section describes the basic vessel form and its variants, the defined pottery types and varieties, and other kinds of decorations that occur. I organized the classification by vessel form because the presence or form of the types, the secondary shape features, and the other decorations tend not to cross vessel form lines within the Angel pottery assemblage. A final discussion compares the Angel assemblage to other contemporary pottery assemblages in the lower Ohio Valley. The pottery assemblage from Angel is similar to those from other lower Ohio Valley sites in that all include many of the same decorated types. Angel's pottery assemblage differs from other lower Ohio Valley assemblages in that, at Angel, painting is the most important decorative mode and incising is present, but rare. Elsewhere in the valley, the situation is reversed.

Chapter 4 is a description of the closed and open handles. The handles are dealt with in a separate chapter because they are the only large segment of the decorated assemblage that cuts across vessel form lines. Specifically, open handles occur in large numbers on both bowls and jars. The final section of this chapter looks at the ranges of jar sizes (orifice diameters) on which closed and open handles occur and concludes that it is practicality that dictates whether closed or open handles were placed on any particular jar. Jars that were small enough to be moved when full without overtaxing the structure of the jar body or breaking the handle had both open and closed handles attached to them. Large storage jars that were not intended to be moved when full had open handles attached to them; the open handles were sufficient anchors for fastening a flexible cover in place.

Chapter 5 is a history, description of manufacture techniques, and design analysis of the decorated pottery type for which Angel is best known, Angel Negative Painted. Angel Negative Painted is placed stylistically and geographically within the corpus of negative painted pottery types—Nashville Negative Painted, Kincaid Negative Painted, Sikeston Negative Painted, and Angel Negative Painted—and within the corpus of similarly decorated plate types—Wells Incised, O'Byam Incised, and Angel Negative Painted. Replication experiments show that the appearance may be achieved by a smudging technique using clay as a resist. A design analysis indicates that the plates were decorated so that the plate itself was a depiction of a cross-in-circle or suncircle. It is suggested that the plates were used as ritual presentation vessels at a local version of the pan-Southeastern green corn ceremony.

In Chapter 6, I present the pottery chronology for the Angel site. A number of morphological and stylistic pottery attributes that occur relatively frequently in the Angel assemblage and are known to have chronological significance at other Mississippian sites in the lower Ohio and middle Mississippi Valleys are identified. Fifty-six archaeological contexts, including both features and excavation levels, were seriated by their pottery assemblages using the Bonn seriation program (Scollar and Herzog 1991). The validity of the resulting seriation order as a chronological order is corroborated by the applicable stratigraphy, absolute radiocarbon dates, and relative fluorine assays. The radiocarbon dates and cross-dating of the diagnostic pottery suggest that the seriated order represents the A.D. 1200 to 1450 time period. The seriation order is divided into two segments, representing the Angel 2 and Angel 3 phases. The pottery characteristics and absolute dating of these phases, plus a sketch of an earlier phase, are described.

Chapter 7 is the final chapter in this volume. The three major sections of the chapter address three interrelated issues: the possibility of ancestor-descendant relationships between the Angel phase and the preceding Emergent Mississippian Yankeetown phase and the succeeding Terminal Mississippian Caborn-Welborn phase, and the likelihood that the contemporary Angel and Kincaid societies are related polities.

The Angel Site

The one-hundred-acre Angel town is located on the high terrace of the Ohio River just upstream from the mouth of the Green River. Large floodplains lie to the west of the site and across the river in Kentucky.

During the prehistoric occupation of Angel, as today, the Ohio Valley of southwestern Indiana and western Kentucky was characterized by a diversity of physiographic zones and biomes (Green and Munson 1978:297-299).

According to Indiana land survey records, the area was covered with oak-hickory forest in the early 1800s (T. Green 1972b; Potzger, Potzger, and McCormick 1956). Compared with the central and northern portions of the Indiana, the vegetation of southwestern Indiana has a distinctive southern composition. Many southern plant species are at their most northern distribution in this area. Deam (1953) lists pecan, lowland hackberry or sugarberry, bald cypress, and overcup oak as trees occurring in this area that are typical of the lower Mississippi Valley flora. There are also numerous smaller plant species as well as several small mammals that are at their most northern distribution in this area (Green and Munson 1978:298).

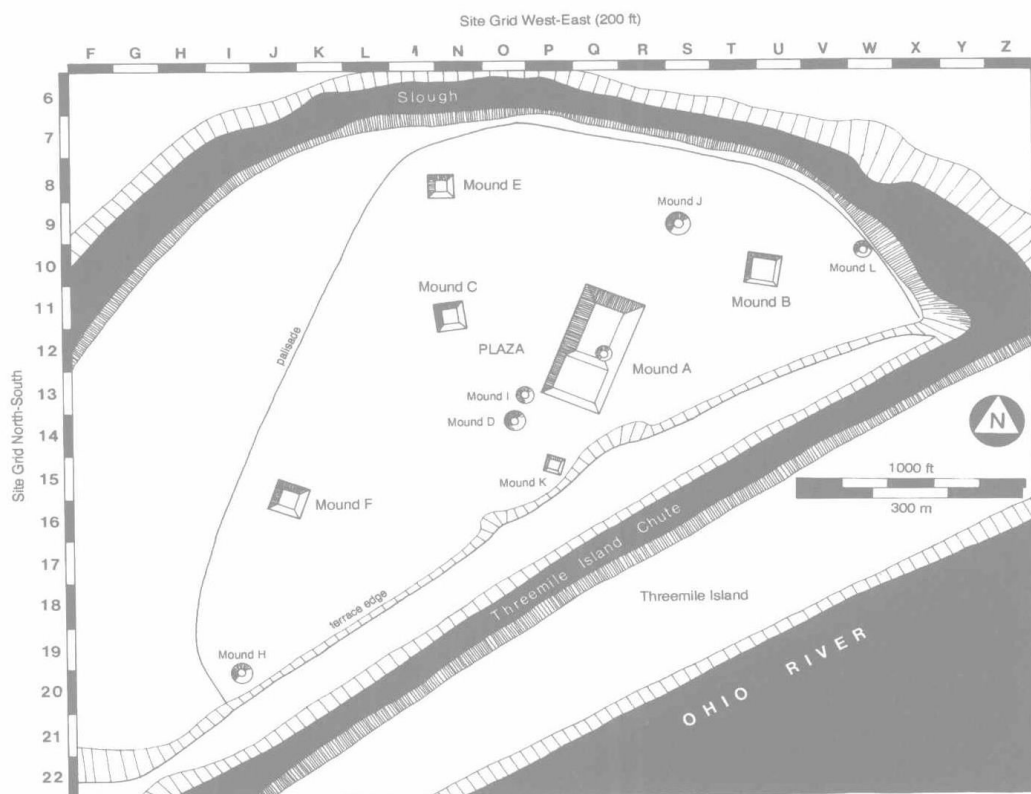


Figure 1.2. The Angel site, 12Vg1 (after Morgan 1980 and Black 1967:Figure 14).

Angel was enclosed by a roughly semicircular bastioned stockade along the eastern, northern, and western margins (Figure 1.2). It is not known whether the river face of the site was enclosed, but the town was screened from the main channel of the Ohio River by a slack water “chute” and a narrow island.

Mound A, a large, centrally placed, multilevel pyramidal mound, dominates the interior of the site. A plaza lies west of Mound A, and the second largest pyramidal mound, Mound F, lies across the plaza. The third pyramidal mound, Mound E, is located in the northwestern corner of the site. Contemporary vegetation differences suggest there may be another smaller plaza east of Mound E. The original shapes of the eight conical mounds cannot be determined with certainty, but their topographies suggest that minimally Mound C, located north of the plaza, and Mound B, located northeast of Mound A, were originally low pyramidal mounds, and their present conical shape is the result of years of cultivation. As the excavation of several of these mounds demonstrate, many were the foundations for special-purpose buildings. At present, archaeological reconstruction of Mississippian society and religion suggests that the buildings were semipublic ritual structures or the dwellings of high-ranking families.