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Liminal River: Art, Agency and Cultural Transformation Along the Protohistoric Arkansas River

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Liminal River: Art, Agency and Cultural Transformation
Along the Protohistoric Arkansas River

Liminal River: Art, Agency and Cultural Transformation
Along the Protohistoric Arkansas River

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy in Anthropology

by

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ABSTRACT

For nearly a century, ceramic vessels looted from Protohistoric Native American Graves in the Central Arkansas River Valley have raised questions about the ethnic identity of the inhabitants of the region and their relationship to their neighbors in time and space. This analysis combines careful documentation of 1198 of these vessels with excavated sherds and other data from the Carden Bottoms site (3YE0025) and adjacent rock art sites in the Arkansas River Valley to provide a context for these vessels and, in so doing, defines the Dardenne Style of artistic production. Comparing motifs, and the manner in which they are applied to the whole vessels in the assemblage, to other earlier and contemporary assemblages suggests a shift in the way potters chose to place the same motif on vessels across two hundred years. Motifs that were limited to placement on the sides of vessels, around the body, or in non-ceramic media, were depicted in superior and inferior views on pottery vessels from this region in the Protohistoric period. This change in pottery decoration, especially the differential use of the same motif through time and on different artistic media, demonstrates the agency of objects and images within the process of cultural change during the turbulent Protohistoric period. The stylistic picture of the ceramics from this region are examined using structuration theory and Alfred Gell's anthropological theory of art to reveal how changes in sociocultural structure, precipitated in this case by the unforeseen events of the Protohistoric period, are reflected in and perpetuated through material culture. Based on the findings of this analysis, it appears that the inhabitants of Carden Bottoms and contemporary sites in the Arkansas Valley responded to the dramatic events of the Protohistoric period through adaptations and responses that drew from known principles of their recent past which were manifested through the images and objects they created and used in the everyday practice of their changing world.

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CHAPTER ONE: INTRODUCTION TO RESEARCH QUESTIONS AND APPROACHES

Overview

The Arkansas River Valley has long been a part of North America's agricultural heartland. From its headwaters in the Colorado Rockies, it flows through the prairie and farmland of Kansas, Oklahoma and Arkansas before joining the Mississippi River (Figure 1). Modern life in this region is relatively quiet compared to more urban areas, but step back four hundred years, and the Arkansas River Valley was no rural backcountry, but an area of vibrant Native American communities, undergoing rapid, forever altering, and sometimes catastrophic, changes.

In fact, the number of archaeological sites documented in the Arkansas portion of the valley alone attests to the area's role as a hub of activity, and is indicative of the prehistoric significance of the region. Mound centers, large villages, resource procurement sites, rock art sites and early European contact period sites have been recorded throughout the Arkansas Valley. The region has long been known for the variety and number of noteworthy artifacts and elaborate artworks (namely late prehistoric and protohistoric ceramic vessels) that were collected from these sites in the late nineteenth and early twentieth centuries. Most of these artifacts were looted from burials at sites, then sold and re-sold on the artifact market, many of them eventually ending up in museums around the world. Unfortunately, in most cases, the best information available regarding the provenience of these items simply stops with county or site level information that was conveyed to institutions as they acquired them. Thus, the situation is a frustrating one for archaeologists. It is apparent large communities once flourished in the area, exchanging goods, ideologies and artistic principles with their neighbors (both near and far) and creating objects likely utilized in a variety of social situations and interactions.

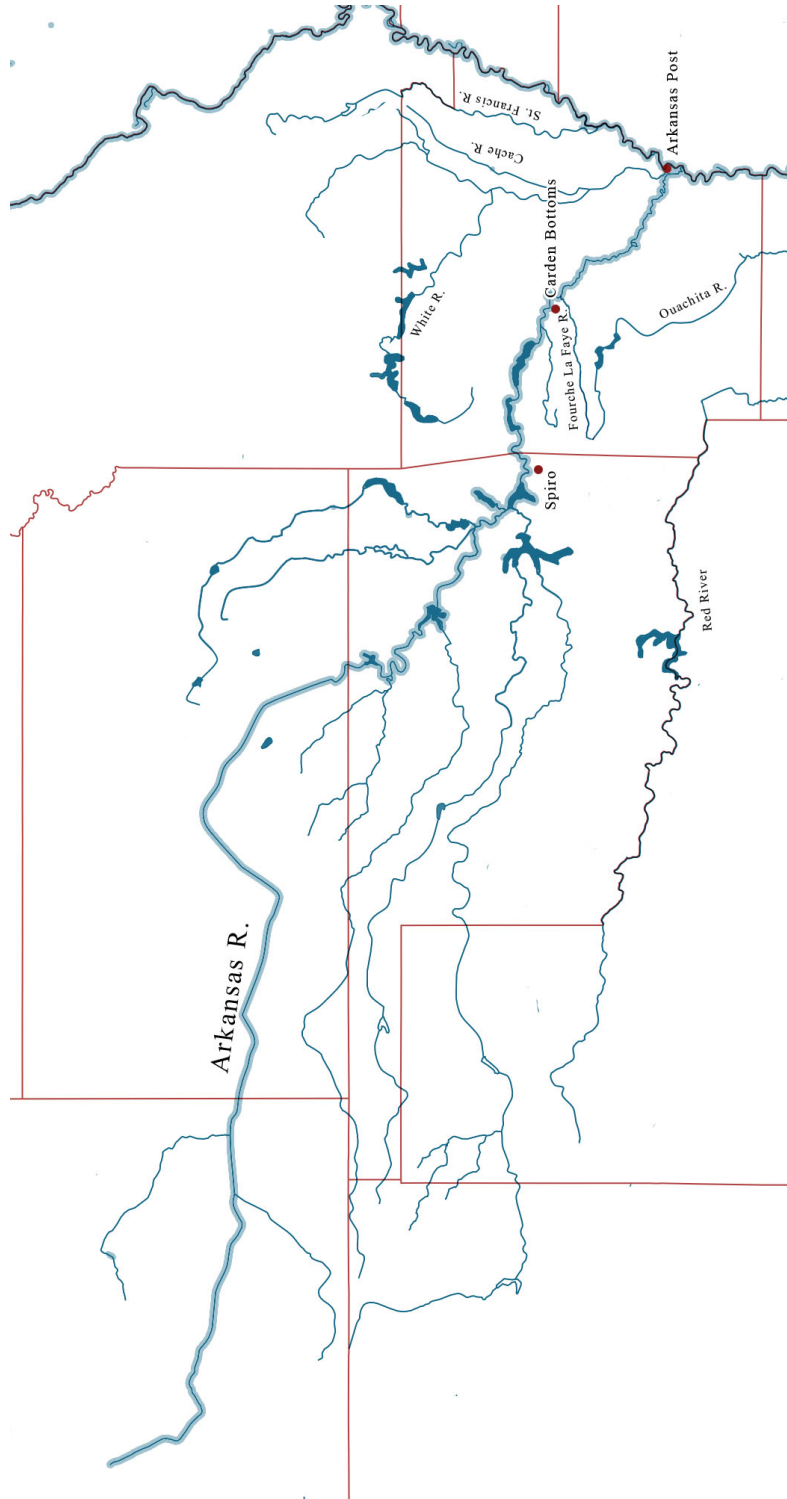


Figure 1. Arkansas River and its tributaries.

Yet, historically and archaeologically, the inhabitants and artists of these communities remain largely unknown.

These collections are filled with highly decorated and stylized items, including pottery, stone discs, stone tools, basketry, engraved shell art and copper. They have attracted a great deal of amateur and professional attention over the decades (Figure 2). Because of the manner in which they were acquired and the subsequent lack of contextual information, however, these collections have been considered to be of limited research value to archaeologists. Add to this a lack of sufficient large-scale archaeological surveys of the area, and limited chronological understanding of known sites in the valley, and you have what appears to be a puzzle that cannot be completed. It's a conundrum that's led many archaeologists to shy away from research in the area altogether, or to form hypotheses and interpretations based on very limited fieldwork and information. Valuable insight has been gained from these collections, though, and there is much more to discover with the right analytic and methodological approach.

Despite the inherent difficulties associated with embarking on new research in this area, it is necessary to fully understand the protohistoric period in the region. It can no longer remain an archaeological enigma in the middle of the state. The region plays a key role, albeit a currently ill defined one, in understanding the period of transition between "prehistory" and early historic Arkansas.

Furthermore, many of the motifs or design elements found on the art works from this area are similar to motifs and elements found on a variety of artworks from the preceding archaeological epochs, namely the Mississippian and Late Mississippian periods. These artworks were found distributed at sites across the Southeastern United States through a network

...WANTED TO BUY...

I will Buy and Pay Cash for

All Types of Indian Relics

SUCH AS ARROWHEADS, SPEARS, TOMAHAWKS, GROOVED AXES AND CELTS, BEADS, BOAT STONES, POTTERY VESSELS, STONE ORNAMENTS, STONE AND FLINT HOES, SPADES, PLUMMETS OR PLUMB BOBS OF STONE OR IRON ORE, FLINT KNIVES, PIPES, OR ANY UNUSUAL OR FINE RELICS OF THE INDIANS.

Send any of the above Relics to me by Parcel Post or Express, well packed. Check will be sent same day as shipment is received for full value. I want shippers from each County. I pay Cash. Twelve years in the business. If you have any Good Indian Relics it will pay you to get in touch with the address below.

H T. DANIEL

Box 698. DARDANELLE, ARK.



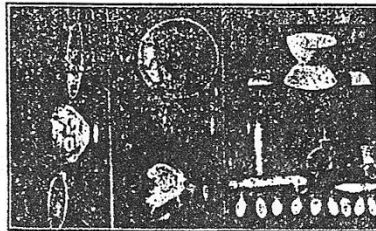
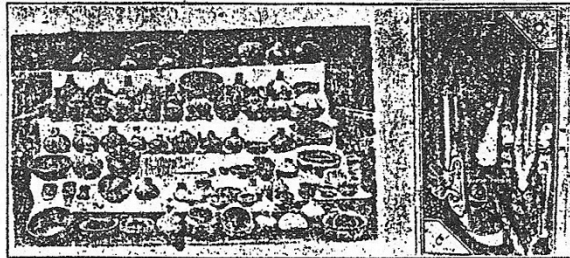
BOAT STONE.



GROOVED AXE.



ARROWHEAD.



BIRD STONE.



BANNER STONE.



DISCOIDAL.



POTTERY.

Figure 2. Advertisement by H.T. Daniel, a Dardanelle, Arkansas area artifact collector. This ad reportedly ran in virtually every newspaper in Arkansas at one time or another during the 1920's and 1930's (Courtesy of the University of Arkansas Museum Collections Facility).

of related iconographic, ritual and exchange complexes, historically referred to as the Southeastern Ceremonial Complex (SECC), now considered by scholars to be less of an organized religious or ceremonial institution and more a loosely affiliated corpus of overlapping ideas and ideologies expressed through imagery in a variety of ways through time and space. Instead, they argue the socio-political institutions that comprised the original SECC (religion, trade, art, style, iconography, etc.) should be examined individually, as they varied culturally, regionally and situationally (Knight 2006), suggesting the use of the term “Mississippian Ideological Interaction Sphere (MIIS) (no less cumbersome terminology perhaps, but a far more accurate characterization) (Reilley and Garber 2007).

Intriguingly, many of the motifs found on material from the Arkansas River Valley are conveyed in seemingly different ways from those documented on objects from contemporary assemblages in the Red River Valley or Lower Mississippi Valley, or those from the earlier, Mississippian period. This suggests a shift in the overall artistic and cultural norms that determine renditions or styles. In other instances, ceramic motifs from the central portion of the Arkansas River Valley appear to emulate motifs or stylistic patterns seen on contemporary vessels from nearby regions, or those found on slightly earlier vessels. However, these emulated motifs are most often found on vessels that differ from their stylistic norm in form and ceramic composition, suggesting a localized “hybridization” of artistic traditions. Interestingly, these objects are primarily from Central Arkansas River Valley sites thought to have been occupied after the collapse of regional mounds centers such as Cahokia, Etowah, Moundville, and, more locally, Spiro. Such centers were a key feature of the earlier Mississippian Ideological Interaction Sphere. One of the key questions facing archaeologists in central Arkansas, and

indeed the Southeast as a whole, is what happened after the collapse of these centers and into the early historic period.

The protohistoric period was one of seemingly catastrophic events for the Native American populations of the Southeastern United States. The arrival of European explorers, colonists and their accompanying diseases was a truly unforeseen, or “black swan” (Taleb 2007) event in history. This, combined with environmental pressures, brought depopulation and instability to Southeastern polities, fractured existing community relationships, disrupted trade and communication, made enemies where once there were allies, and still yet forced other, disparate groups together. It remains unseen which, if any, of these factors were at work in the Arkansas River Valley.

Liminality as an Analytic and Conceptual Device

Any one or combination of the factors mentioned above could have caused the powerful paradigm shifts and sociocultural changes which melded the culturally distinct societies that emerged in the post-European contact Southeast. There is little argument the events of the Protohistoric period were transformative experiences for the societies of the region. The Mississippian people of the area found themselves suddenly faced with startling events and circumstances that upended and likely undermined many aspects of the social structures used to order and interpret their world. They emerged, approximately four generations later, as groups more akin to the modern Native American tribes historically found in the region.

Because of the transformative nature of this scenario of events, the anthropological concept of liminality provides a means to more powerfully examine the Protohistoric people of the Arkansas River valley. First developed in the early twentieth century by Arnold van Gennep (1909) and employed and expanded by Victor Turner (1967, 1969), the concept refers to the

condition of being within a process of change of states. Traditionally, it has been used by anthropologists to identify and discuss the ambiguous state of being “in-between” that individuals experience during transformative rituals or rites of passage (van Gennep 1909). Turner expanded on van Gennep’s original concept, referring to liminal entities as “neither here nor there; they are betwixt and between the positions as assigned and arrayed by law, custom, convention, and ceremonial (1969: 95). Until relatively recently the concept of liminality within sociology and anthropology had changed little. Many scholars have avoided its use, preferring to escape the unilineal connotations associated with its early definitions and use as a concept. Originally conceived of as a means of describing or discussing *individual* rites of passage (van Gennep 1909; Turner 1969), as an analytic concept it focused on the state between recognized individual identities during transitional periods in which both the “before” and “after” are know quantities. However, modern uses of liminality as an analytic concept have moved beyond its early teleological uses. This analysis uses liminality as a means of conceptualizing a given moment in time. It does not rely on or assume a given outcome or focus on a transition from one cultural entity to another. Other scholars of the colonial and postcolonial period examine and interpret the period from the analytic perspectives of hybridity theory and conceptualization of a “third space” (Bhabha 1994). Hybridity describes conditions in contact zones “where different cultures connect, merge, intersect and eventually transform. More specifically hybridization denotes the two-way process of borrowing and blending between cultures, where new, incoherent and heterogeneous forms of cultural practice emerge in translocal places – so called third spaces,” (Spielmann and Bolter 2006: 106). This approach may be useful in future, more ethnographically informed analysis within the Central Arkansas River Valley, but for the time being (lacking specific characteristics regarding cultural identity, or even whether or not multiple

cultures converged or one changed) too much remains unknown in the Central Arkansas River Valley to apply hybridity and third space theories to archaeological interpretations in the region. Thus, liminality is used as an analytic lens to illustrate the agency of objects in this scenario.

Some scholars are now suggesting liminality should be utilized as a principal tool for investigating and interpreting, not only individual behaviors and responses, but also those of societies, regions and time periods as well. As Bjorn Thomassen suggests, “Liminality may be as central a concept to the social sciences as both ‘structure’ and ‘practice,’ as it serves to conceptualize moments where the relationship between structure and agency is not easily resolved or even understood within the, by now classical, ‘structuration theories,’” (2009:5). However, Thomassen is quick to point out that the concept of liminality is just that – a conceptual device, not an explanatory one. It does not explain how or why structures, societies or individuals react or change as they do, but provides insight for the sociologist, ethnographer or, in this case, the archaeologist, as to what may be motivating change in the first place. Change happens. Structuration happens. Liminality cannot explain why, but it can provide a conceptual framework for interpreting the mechanisms and outcomes of this process. “In liminality, the very distinction between structure and agency ceases to make meaning, and yet, in the hyper-reality of agency in liminality, structuration takes place,” (Thomassen 2009: 5).

Structuration, Practice and Object Agency in a Liminal World

I argue the concept of liminality can be used in this specific situation as a conceptual device to examine the mechanisms of change and the resultant shifts in material culture (primarily decorative ceramic vessels) of the Arkansas Valley during the protohistoric era. While liminality does not explain the relationship between changes, people and their objects in the Arkansas River valley at this time, there can be little doubt the society(ies) in this region

suddenly found themselves outside the boundaries of their known experience and their ability to easily and quickly order and interpret their new world, or in a liminal state. There is very little a society can do to prepare for the sudden appearance of decimating diseases, armored intruders with horses, swords and guns, and the subsequent flood of newcomers and never before seen goods that undermine traditional social, spiritual and economic roles.

A liminal state is recognized by those experiencing it – perhaps not in said terms, but they recognize that events, pressures, etc. have resulted in life being outside the “norm”. There are certain rituals or structured behaviors that may help them to exit liminality and restore or rewrite normal. Ceremonial masters and behavioral or ritualistic norms guide the behavior of the liminal participant in individual transitions, but when an entire society enters a liminal state, there are no ceremonial masters. The guiding elements of structure break down. The participants recognize their state as being a liminal one, but there is no guiding structure or ceremonial authority that guides them in how to exit it. A society-wide liminality has the effect of making agency all the more important. It pushes individual creativity and action to the forefront of the structuration process. It imbues every individual action and decision with social import. If there is no social structure to inform their behavior, the individual must simply do the best they can, informed by what structures are known, using their own agency to “fill in the gaps” in an effort to shape the transition into the next state.

In this case, I am using archaeological materials or objects to examine a social reaction through material objects to the convergence of events in the Arkansas River valley at this time. Drawing from the work of Pierre Bourdieu (1977, 1990), Anthony Giddens (1979, 1984), William H. Sewell (2005) and Alfred Gell (1998), I examine the role of objects (primarily

decorated ceramics) within the process of structuration, or change, that encompassed the seventeenth century in this region and period of liminality for the societies that lived there.

As mentioned above, liminality cannot explain or interpret these changes. The work of Alfred Gell provides one avenue of interpretation via the objects and artifacts this society left behind. He provides an analytic model that elucidates the relationship between artists, objects, agency and society. Agency, either of individuals or the art objects or imagery they imbue with it, is a catalyst for societies to escape a liminal state, either through an adaptive transformation or via an internalization, modification and normalization of the “liminal” state into a new structure. I employ a combination of the approaches above to further identify and explore the role that objects played in the structuration process that occurred at this loci in space and time, resulting in an archaeological contribution to the broader topic of societal liminality and its expression the material world.

Figure three illustrates the analytic model employed herein. Using the example of the looped square motif, the figure demonstrates the continuance of this particular image across time and transformative social events. During the Mississippian period, the motif was used on an ear spool found at the Spiro site as a personal, physical connection to larger ideological or religious ideas. Ear spools were common personal adornments during this time period, and engraving, incising, embossing or shaping them with or into elements of the mythological or metaphysical served as an individual connection to and identifier with the sacred. Ear spools seem to occur with less frequency during the Protohistoric period, and when found, they have been less elaborately decorated than their Mississippian counterparts. Pottery seems to become a more dominant artistic medium after the shockwaves from initial contact with the Spanish radiate

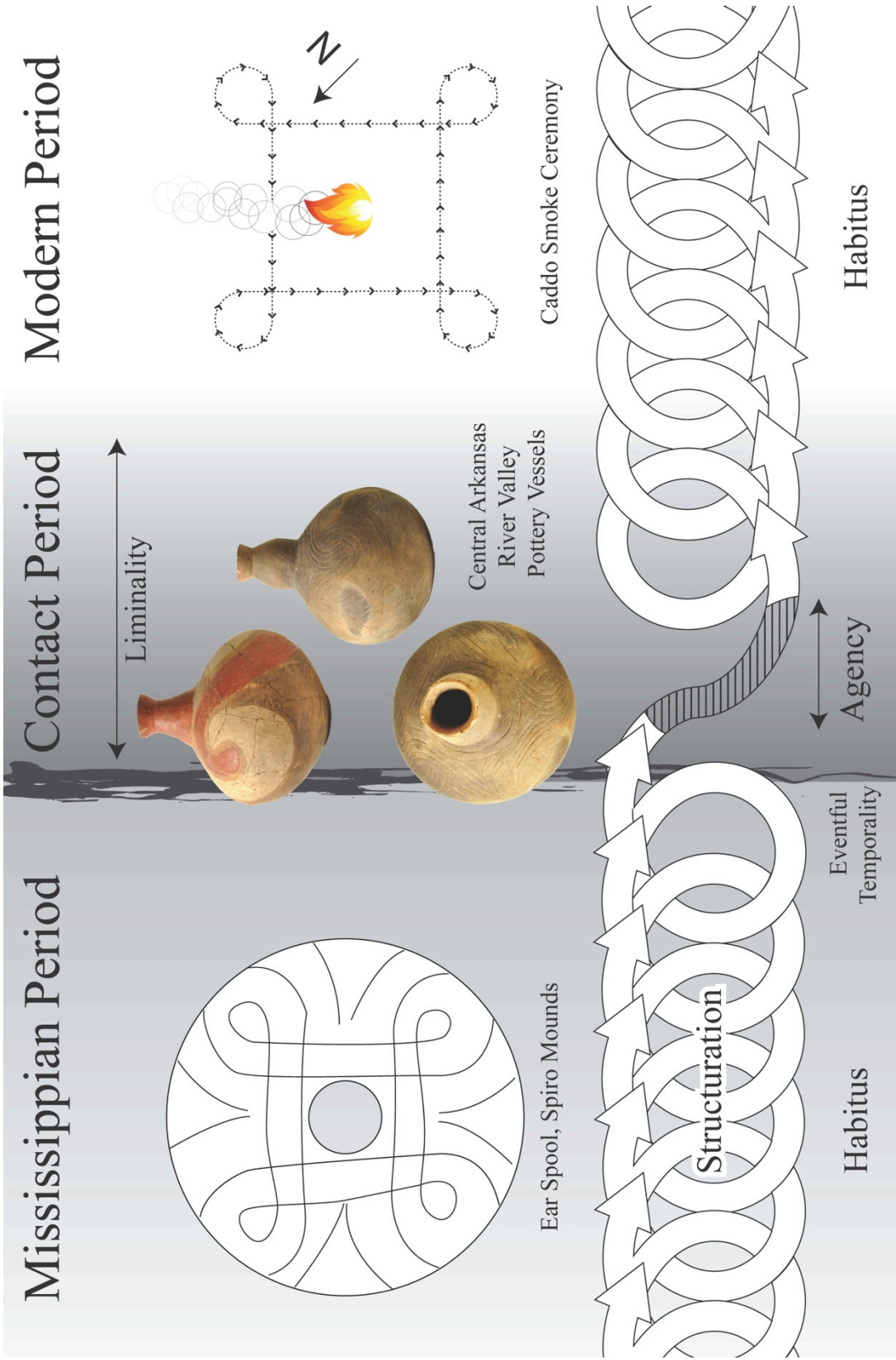


Figure 3. Analytic research model demonstrating the interplay between liminality, agency, structuration, time, practice and material culture.

through communities in the Arkansas Valley. The de Soto entrada and its subsequent devastating affects represent the type of unforeseen event (outlined in Sewell's eventful temporality concept) that alters the course of the structuration process (Giddens 1979, 1984; Sewell 2005), thrusting the Central Arkansas River Valley residents at sites like Carden Bottoms into a state of social liminality. Agency – individual and object agency – rise to the forefront to alter the process of structuration during the liminal, transformative phase, before a new “normal” is created. Ideas, imagery and practice are reincorporated into a newly formed habitus. This new habitus includes elements (material, ideological, organizational, etc.) of the past that individuals and groups draw from in incorporating modern events within variations on a cultural continuum. In this respect, the concept of object agency (as highlighted in liminal or transformative periods) has relevance and importance to interpreting such periods throughout all avenues of archaeological inquiry.

In this case, the modern rendition of the looped square is enacted in the form of the physical steps of a Caddo smoke ceremony. The ceremony was participated in and documented by George Sabo, III, archaeologist, ethno-historian and member of the Caddo Heritage Museum board of advisors. Tribal elders “washed” the vessels with sanctified smoke before each person “washed” themselves, approaching from the east and turning clockwise at the cardinal directions. The pattern walked during this process forms the pulled square motif so important in past artistic imagery. The vessels represent “a sacred connection with ancestral souls, so it was necessary to ceremonially honor that connection,” (Sabo 2008:281). In this example we can see the embodiment of the ideological in the physical world. The fact that the intersection of the physical world or existence and that of the sacred or metaphysical are tied via the same image,

albeit in differing manifestations, over time attests to the strength of the relationship in the communal mindset. As Sabo illustrates using the example of the smoke ceremony:

“The conceptual framework for this ceremony consists of a phenomenal realm represented by the participants and the ceremonial setting and an unseen spiritual realm associated with ancestral souls and the ‘father above.’ Interestingly from an archaeological perspective, the relationships connecting these realms were symbolized by material objects: the ancient pottery vessels representing ancestral souls and the dissipating cedar smoke carried aloft with the aid of an eagle feather fan representing the means by which the elders communicate with the ‘father above.’ In a metaphorical sense, these objects served as ‘witnesses’ to the performance. Finally, the ceremonial setting became transformed, if only momentarily, into a hierophany: a place where the spiritual world is revealed (Eliade 1954:4),” (Sabo 2008: 282).

This analysis aims to examine this process as it’s manifested in material culture through time, space and transformative events. Sabo was fortunate enough to witness and participate in the event described above, and was able to discern the relationship between this performative ceremony and the religious and cultural ideas it was ordering and reaffirming for its participants. Archaeologists rarely have access to this amount of information about the religious, ceremonial and ideological aspects of past people’s lives. We are left with the material remains of such ceremonies. Imagine interpreting the ceremony described above from a fraction of the physical evidence or material described. However, the analytic model and combination of approaches outlined above and in more depth in chapter seven, help shed light on this intersection of the physical and sacred worlds during a tumultuous time in the Central Arkansas River Valley.

Historical and Archaeological Overview

The Arkansas River valley remained firmly under “native” control, in one form or another, until the early nineteenth century (DuVal 2006). As outlined above, these factors produce an archaeological opportunity to examine how significant, unexpected and relatively

rapid cultural change or paradigm shifts are internalized, responded to or normalized via material culture – namely imagery and artwork.

The archaeology of the protohistoric period in this region is worth much consideration, although it does require a good deal of sorting out. Many of the same questions that initially drew interest in the region have yet to be satisfactorily answered: what happened to cause a seeming increase in artistic ceramic variation in the protohistoric central Arkansas River valley, and who were the artists and their associated communities responsible for their creation? A systematic study in this area has the potential not only to answer, or further inform these questions, but also to inform regional and universal questions about the past and past people's relationship with the material world.

While previous research endeavors have filled in portions of the archaeological picture of the valley, they have stopped short of providing any comprehensive understanding. Recent research, however, has approached these same questions with new angles, new analytic tools and a variety of cooperative resources. In 2009, the Arkansas Archeological Survey (AAS) was awarded a grant from the Collaborative Research Program of the National Endowment for the Humanities to support further research in the Arkansas River Valley. The goal of the project, in collaboration with the Osage, Caddo and Quapaw Nations of Oklahoma, was to examine the region's past, combining archaeology, history, ethnohistory, geophysics and oral tradition – each field providing insight into particular areas – in order to generate a more nuanced interpretation of the protohistoric Arkansas River Valley. The project was a four-year study to examine the long-standing archaeological and historical questions in the region by approaching them from a material culture stand point, namely art objects and the roles they play in ritual and social interactions. The project evolved into a four pronged approach: 1) an intensive geophysical

survey (likely the most intensive of any geophysical investigation in the state to date), 2) extensive excavations of features identified via geophysical investigation at the Carden Bottoms site, 3) thoroughly documenting all materials from the Arkansas Valley in the largest museum collections, and 4) encouraging descendant communities' involvement and participation in each step of the project, thereby gaining insight through the descendants' perspective (Figure 4). Unfortunately, the latter is all too often absent from academic archaeological work. One major goal of this undertaking was to rectify the divide between Indians and archaeologists that is particularly problematic in Southeastern archaeology, as many of the descendant communities have been far removed from their original homelands.

Coincidentally, at the time this project was about to begin in 2009, the Arkansas Archeological Society held its annual training program at the McClure site, a portion of the larger Carden Bottoms site (3YE0025/3YE0347) in Yell County, Arkansas. This site locality is a protohistoric nexus of the Arkansas Valley (Figure 5). The fieldwork conducted during the training program excavated a large, midden-filled ravine. Valuable material culture and subsistence information was found in the multiple dumping episodes documented in this ravine. During excavations, the Arkansas Archeological Survey was contacted by the Arkansas Natural Resources Conservation Service (NRCS), a division of the United States Division of Agriculture (USDA), regarding a proposed conservation project on property containing a portion of the Carden Bottoms site. The conservation project aimed to transition over 600 acres of farm land into wetland restoration as part of the NRCS' Emergency Watershed Protection Program. The restoration project aimed to convert the area on and around the Carden Bottoms site from actively farmed cropland into a permanent conservation easement of bottomland hardwood. This required the planting of around 300 trees on the 16 acre site. NRCS archaeologist, John Riggs,



Figure 4. Members of the Osage and Caddo Nations of Oklahoma visit excavations by Arkansas Archeological Survey archaeologists at the Carden Bottoms site, May 2011.

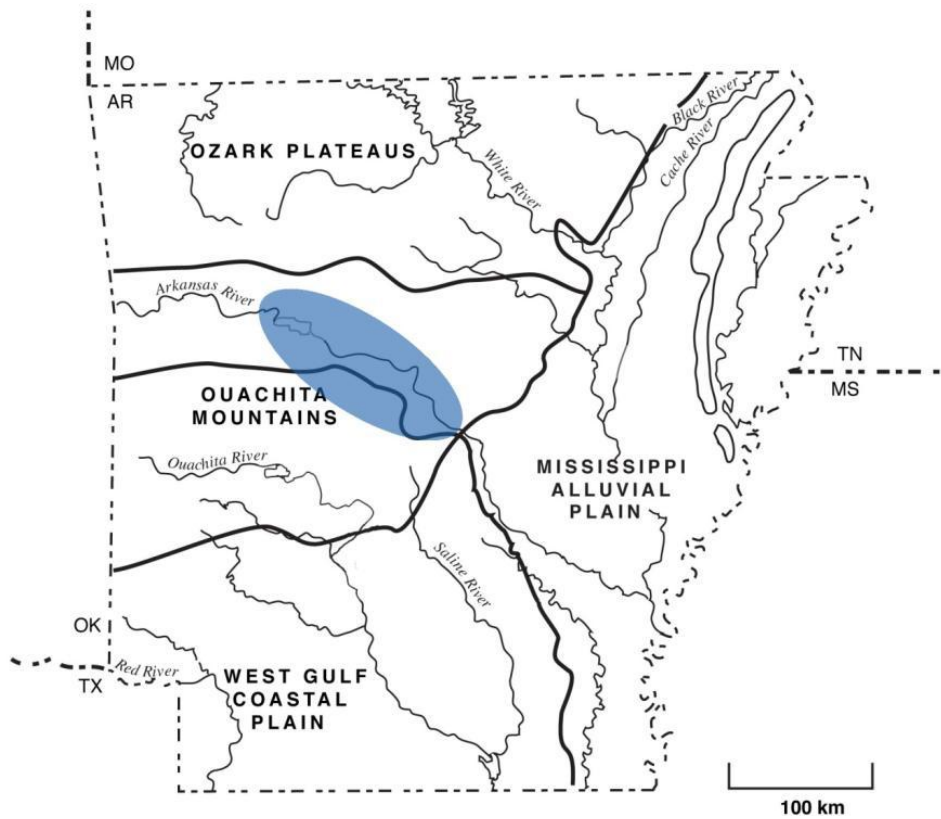


Figure 5. The Central Arkansas River Valley.

was aware of the ongoing excavations, as well as AAS's NEH award and upcoming project. He contacted the Survey regarding the upcoming tree planting. Working in coordination, the exact location of the trees were chosen based on the geophysical results, and were placed so as to not disturb potential archaeological features. The NRCS was instrumental in coordinating with the site landowners regarding archaeological work at this portion of the Carden Bottoms site. The landowners were interested and highly supportive of the project. It was decided to focus the archaeological fieldwork portion of the NEH project at this location. The Carden Bottoms site is regionally notorious as a large site, the subject of much looting over the decades. Many of the objects in the museum collections are purportedly from this site, and this presented an opportunity to devote resources and research focus at the epicenter for many of the unanswered questions emanating from the valley.

This fortuitous alignment of interests has allowed for a series of well funded cooperative projects that have brought tools and resources to the archaeology of the region that were previously absent. To date, three houses have been completely excavated at the Carden Bottoms site, along with a portion of their associated refuse pits. Complete collections from the Arkansas River Valley have been documented at three museums and entered into a comprehensive database. Radiocarbon dates obtained from these houses and pits place occupation at the Carden Bottoms site during the first half of the seventeenth century, and evidence from the house excavations suggests they were likely only occupied for one or two generations. Information regarding subsistence, architecture, seasonality, lithic utilization and manufacture, and pottery trade and manufacture has been recorded from the excavations and subsequent artifact assemblages. Within the last four years the data available for interpreting the protohistoric period in this area has greatly increased.

This dissertation focuses primarily on one aspect of the larger project: the role that art objects play in people's reactions to large, sudden, unforeseen changes that bring about a state of social liminality. In order to examine this, a comprehensive artistic style for this area and time period has to be defined using a combination of objects in museum collections, excavated materials and recorded rock art images. Once a geographic style has been established for this time period, if/how it changed over time can be discussed and situated in relation to other regional and temporal artistic styles. Only then can questions about why changes in artistic traditions and objects may have occurred be addressed.

The issues surrounding the acquisition of the museum collections examined for this project, make it seem unlikely that a site like Carden Bottoms has the potential to answer "big," global scale questions such as how people react and interact through things as a part of cultural change, whether or not objects (specifically art objects) have agency themselves, and how such characteristics can be detected archaeologically. Such questions have value on a local, regional and global scale, and armed with the analytic approach outlined here, even this seemingly unremarkable site in rural Arkansas has the power to inform issues of global social and historic significance.

Organizational Overview

Using a thorough and nuanced approach that bridges the divide between old collections and newly acquired archaeological data, tackling far-reaching questions like these is the objective of the research presented in the following chapters. Chapter two presents an overview of the Arkansas River Valley, geographically, historically, culturally and temporally. As briefly mentioned above, a number of factors have influenced the success of research in the area, from

geographic changes to the upheaval of the protohistoric period. This chapter presents the “setting,” as it were, that this research and subsequent research is entrenched in.

Chapter three outlines previous and recent archaeological fieldwork and museum documentation, conducted as part of NEH funded projects. Arkansas has over 200 late prehistoric (and possibly later) rock art sites, and 123 of them are located in the Arkansas River Valley. A previous project recorded these sites. Their relationship to sites such as Carden Bottoms is key to understanding the role of art in the protohistoric river valley. This is examined, along with a brief outline of the findings from excavations conducted since 2010. Of particular import to the questions addressed with this work, is the composition of the ceramic assemblage (particularly the 1433 decorated sherds) found in recent excavations at Carden Bottoms and its comparison to the 1198 whole vessels documented in the museum collections.

Chapter four presents the data from the whole vessels needed to make such a comparison. The methodology of the vessel documentation is outlined and compared to the excavated materials. Chapter five includes a detailed analysis of the decorative imagery found on the vessels. Such an analysis is used to define an overall stylistic picture of the ceramics from the region and extended to include imagery found in other artistic mediums, such as rock art, in order to generate an overall artistic style of the Arkansas River Valley. Once a geographic style is established it is then compared, regionally, in space and time to highlight differences between it and other styles in chapter six. The chapter examines how the Central Arkansas River valley style compares to its contemporary neighbors in the Red and Ouachita River drainages, as well as its regional antecedents. Demonstrating and quantifying stylistic differences (and similarities for that matter) based on time and space is key for identifying the agency of art objects. Chapter seven examines this further. It situates my findings within the analytic and theoretical

approaches introduced above, regarding liminality, practice theory, the role of art in society, the agency of objects (Gell 1998), and various processes of cultural change including structuration (Giddens 1984) and eventful temporality (Sewell 2005), and then addresses the following: 1) Can these changes in material objects be tied to other (environmental, social, cultural, political) changes taking place during the protohistoric time period in this area? 2) What do these changes, or in some cases, lack of, suggest about the way people use and internalize social change using objects or images? and 3) What does this examination contribute to the ongoing multi-disciplinary discussion regarding the agency of objects, particularly art? Chapter eight summarizes the findings of this inquiry and discusses the significance of these findings to large-scale questions relevant to liminal situations of cultural upheaval both past and present, paying particular attention to the agency of objects in highlighted such situations. It also, briefly, outlines future research questions that may be addressed in the region.

CHAPTER TWO: GEOGRAPHIC, HISTORICAL AND TEMPORAL SETTING OF THE AREA

Geographic and Geologic Setting

The Arkansas River originates in the Rocky Mountains in Colorado and flows east through Kansas, Oklahoma and Arkansas. It bisects the modern geopolitical state of Arkansas, flowing west to east, with the Ozark Plateau to the north and Ouachita Mountains to the south. As it leaves this upland setting near the middle of the state, it flows onto the Mississippi Alluvial Plain, emptying into the Mississippi River as one of its major tributaries. Today, as in prehistory, it serves as a major east/west corridor, much like the Missouri River to the north and Red River to the south. Its current flow is greatly reduced from what it once was due to irrigation in southern Colorado and Kansas. Today the river is navigable to commercial traffic only up to the point of Muskogee, Oklahoma, but prior to the twentieth century, it was likely a fully navigable route almost to its source (at least into the foothills of the Rocky Mountains).

The specific area under consideration in this work extends from near the Arkansas-Oklahoma border to below Little Rock (Figure 5). While flowing through the westernmost portion of the study area, the river is still relatively entrenched in the bedrock of the northern Ouachita Mountains. The valley opens as the river moves eastward into the geologic division between the Ozark Plateau and Ouachitas. It is bordered on the north by the Boston Mountains, the highest and steepest part of the Ozark Plateau. Erosional processes formed the hills and “mountains” of the plateau, and it is highly dissected by rivers and streams. It is capped by sandstone of the Atoka and Hartshorne formations (Pennsylvanian in age), underlain by stream-deposited sediments and Fayetteville shale. The Ouachita Mountains, to the south of the Arkansas River, are formed by sedimentary, metamorphic and some igneous rock that has been

uplifted in an east-west orientation in a process. The ridges created herein are often sharp and steeply tilted, with evident distortion (Chandler 2007, 2009) (Figure 6).

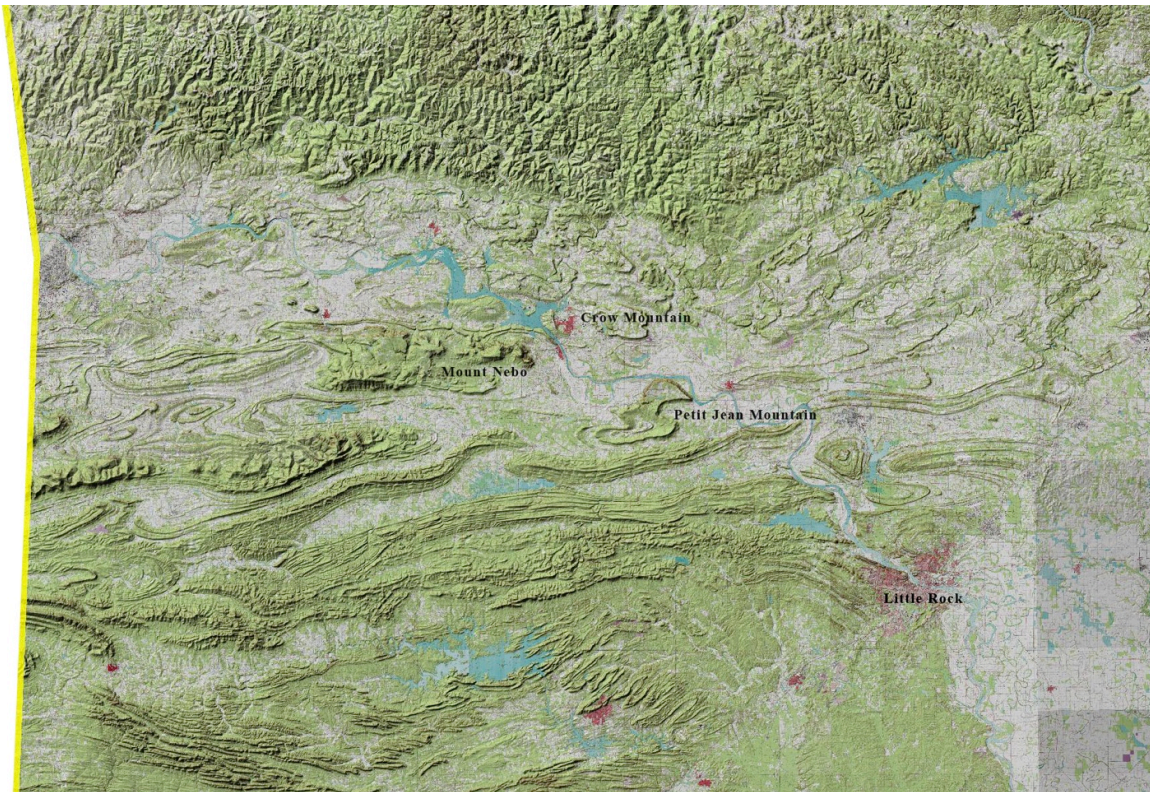


Figure 6. Digital raster graphic showing relief or hillshade topography of the Central Arkansas River Valley.

The Arkansas River valley itself is composed of the narrow area including the river and the mouths of its tributaries. In general, the braided stream terraces of the uplands surrounding the valley, widen onto the narrow alluvial plain as they empty into Arkansas. The bedrock in the valley consists of horizontally lain sedimentary rock and shale, with some small, scattered igneous intrusions. Several “mountains” on the valley floor were formed as erosional remnants of sandstone. Petit Jean Mountain and Mount Nebo (both Arkansas state parks) are examples of these. These remnants form very prominent features on the landscape, especially when viewed from the valley floor or river itself. A number of late prehistoric and protohistoric habitation and rock art sites are found on and around these remnant hills, indicating that their visual prominence

on the landscape and subsequent function as vantage points may have had significance in the past as well (Figure 7).



Figure 7. View of Petit Jean Mountain from the Carden Bottoms locality.

As the river flows eastward, the valley expands with a wider dispersal of alluvial overlay and increasing evidence of meandering. At the southeastern extent of the study area, the Arkansas River transitions onto the Grand Prairie (a Pleistocene terrace). While meanders and oxbow lakes formed from cut off channels are more numerous in this region, they are not as numerous as they are closer to the mouth of the Arkansas in the younger (Holocene) Mississippi River terraces.

Late Prehistoric Climate Change and General Climatic Setting

The late prehistoric period in this region included a series of climate shifts that affected the lives of those living there. The sixteenth and seventeenth centuries were the height of the Little Ice Age, a period of widespread cooling with rapidly changing patterns in regional temperature and moisture between A.D. 1350 and A.D. 1850. This climatic shift caused a variety of changes in all regions of the world, but generally led to much colder, harsher winters and periodic drought. Tree ring studies, pollen cores and sediment studies indicate that this was true in eastern North America as well. No climatic studies specific to this period have been

conducted in the Central Arkansas River Valley. However, tree ring studies from adjacent areas suggest a pendulum like pattern of increased and decreased rainfall (Stahle and Cleaveland 1994). “Cycles of excessive cold and unusual rainfall [or lack thereof] could last a decade, a few years, or just a single season. The pendulum of climate change rarely paused for more than a generation,” (Fagan 2000:48). This would have affected the availability and ease of access for both seasonal vegetation and animal resources. It is unclear exactly what effect the Little Ice Age had on the inhabitants of the Arkansas River valley, and, at this point, any speculation is based on data obtained from outside the area (Vogel 2005).

In the Central Mississippi Valley, the climate change of the mid-fourteenth century seems to have spurred a trend of increased centralization and decreased crop yields. It is likely that some chiefdoms in that region merged or became more socially and politically dependent for mutual protection and cooperation (DuVal 2006). The major mound center at Spiro (west of Ft. Smith) appears to have hit its zenith by the mid fifteenth century and its population subsequently dispersed or declined. Unfortunately, the archaeological record for the Central Arkansas River Valley during the late Mississippian period, including the onset of these climatic changes, is relatively sparse. More archaeological and paleo-environmental research is needed to fully understand the changes between Mississippian and Protohistoric in this region, including any causal relationships or resultant outcomes in material culture or population distribution related to climate change.

Outside of these periodic episodes of climatic extremes, the climate of the protohistoric Central Arkansas River Valley was not remarkably different from today. The area has a relatively mild climate, with some periods of intense heat in the summer and occasional cold

winters. The winter and spring months usually see the most precipitation. Late summer and fall tend to be the driest periods in the valley, but there is occasional variation in this pattern.

Resource Availability

Today, as in the past, the Arkansas River valley is rich in natural resources. The region is an example of an ecotone with enough variability in resources that residents here may have been able to cope more successfully in the face of climatic changes such as those discussed above.

Characterizing the ecological environment of the Protohistoric Arkansas River valley Kathleen DuVal eloquently states:

“The region certainly abounded in natural resources. For food and apparel, the upper Arkansas Valley provided bison, which wandered eastward from the Plains in the hot summer to cool themselves in the shaded woods of the central valley. In the mountains and valleys, deer, elk, turkeys, beavers, bears, wildcats, woodchucks, foxes, squirrels, rabbits, opossums, muskrats, and raccoons fed the central valley’s people. In fields and forests, people found hickory nuts, acorns, black walnuts, pecans, poke, lamb’s-quarter, wild potatoes, sunflower seeds, mulberries, Jerusalem artichokes, and wild onions. The river and the lower valley’s swamps provided fish, mussels, turtles and frogs. Ducks and geese migrated along the marshlands of the Mississippi flyway,” (2006:14).

Plant Resources. Modern agriculture has altered the floral landscape. In order to fully understand the botanical resources and landscape of the Protohistoric period, it’s necessary to generate a picture of what the landscape may have looked like prior to historic and modern processes. Jeter et al. (1990) used notes from the General Land Office original surveys in the early and mid nineteenth century to reconstruct a hypothetical late prehistoric environmental picture for the Arkansas River valley. Based on their reconstruction, it appears that Cottonwood, Ash, Cypress, Elm, Hackberry and Hickory were common trees in the valley, with the occurrence of Oak increasing into the Ozarks and Pine to the south in the Ouachitas. Undergrowth species included an abundance of river cane, willow, vines, wild grapes, Spice Bush, Pawpaw and briers. A variety of grasses and other plants were described in the most

general sense within the GLO notes but were not specifically identified. Corn, pecan hulls, beans, Hickory nutshells and walnuts have been identified in materials obtained during recent excavations, as well as fragments of river cane and grass thatch. Specialized floral analysis will greatly aid in identifying plant species most commonly used by residents at sites like Carden Bottoms.

Animal Resources. The faunal resources of the Arkansas Valley were also plentiful and varied during the Protohistoric period, as they are today. The region lies along the western portion of the Mississippi flyway. Migratory waterfowl are still common today, and would have likely been more so prior to the twentieth century. A wide variety of fish, amphibians and reptiles were plentiful in the river and its tributaries. Deer, raccoons, otters, beavers, bobcats, turkey, fox, wolves, rabbits, squirrels and other small mammals were common. Elk, black bear and panthers were also present, although likely not in great numbers. Bison were found in the Arkansas valley, but were likely more common on the grasslands to the west (DuVal 2006; Nuttall 1999 [1821]). These animals would have provided food and raw material for a variety of tasks. Beaver, deer, bison, panther and (to a lesser degree) mink took on a great deal of significance during the early colonial period because of their value in the fur trade (Jeter et al. 1990; Polechla 1987). A great deal of faunal variation is present in the excavated materials from Carden Bottoms. Deer, elk, bison, turtle, fish, bear and beaver are all represented in the assemblage, and specialized analysis will provide more detailed species identification.

Lithic Resources. Raw lithic materials are also highly abundant in the Arkansas River valley, in contrast to the lower Mississippi River valley. Many of the lithic tools found at the Carden Bottoms site were manufactured from river cobbles. The same is true with many of the tools documented in museum collections from the region, indicating that residents were utilizing

the river cobbles readily available to them. Tools and projectile points made from Novaculite, found to the south in Ouachitas, are also well represented in the lithic assemblages. The Arkansas River carried glacial meltwash and deposits at the end of the Pleistocene period, depositing a variety of chert and gravel as it progressed eastward. “It has transported gravels, including some good to excellent varieties of chert, from a wide variety of sources dissected by itself and its tributaries. These cherts and other lithic resources were available to Native Americans in the river’s gravel bars and old terrace deposits,” (Jeter et al. 1990). In addition to the easily accessible river gravel, outcrops of chert are located throughout the Ouachitas and Ozark Plateau surrounding the river valley.

Clay. The availability, accessibility and type of clay and other mineral resources are of particular importance to this study. Clay is an abundant mineral resource in Arkansas. Even today the state is a major producer of industrial clay, much of this for the brick industry. Modern pottery clays found in Arkansas are usually ball clay or kaolin. They have a high plasticity and flexibility when wet and have little shrinking and breaking prior to firing. When fired, they are strong and nonporous. “Clays having the properties necessary for pottery and stoneware are present in the Ouachita Mountain and Arkansas Valley regions and were formed by the weathering of shales in the Atoka Formation and Stanley Shale (Pennsylvanian and Mississippian, respectively),” (Arkansas Geological Survey 2014). Alluvial clays are present throughout the Mississippi River Alluvial Plain in the form of recent stream deposits and some wind blown loess. Red-orange residual clay from the Ozark Plateau has been used to make modern redware pottery, and pottery clays occur in several soil groups in southeastern Arkansas (Arkansas Geological Survey 2014). Clay from any of these sources may have been used to make ceramic vessels throughout the prehistoric period.

In 2013, members of the Arkansas Archeological Survey (associated with this project) assisted University of Arkansas graduate student Sarah Hunt with a class project documenting potential sources of clay near the Carden Bottoms site in Yell County. In one half-day field trip seven sources of clay suitable for either pottery construction or use as a pigment were documented on public property within two miles of the Carden Bottoms locality (most within one mile) (Hunt 2013). Hunt then compared other mineral inclusions found in the raw clay with a sample of sherds excavated from a trash pit at Carden Bottoms. Based on visual inspection with a microscope, she concluded that a significant portion of the sherds examined could have come from clay obtained locally. The specific methods and ramifications of this are explored further in the following chapter. A forthcoming doctoral dissertation by Rebecca Wiewel examines the question of clay sources for the manufactured pottery using instrumental neutron activation analysis (INAA). The question of whole vessel origin aside, there is no doubt that quality clay sources for use in pottery, architecture, daily life and artistic production were readily available in the Arkansas River valley.

Cultural and Historical Setting

Mississippian Life in the Arkansas Valley. The Mississippian period is not the focus of this research, but understanding the cultural and material world of the Mississippians and their Caddo contemporaries is necessary to address questions about changes in material culture during the protohistoric period. The following provides a very brief overview of the Mississippian period in the Arkansas River Valley and surrounding areas. The Mississippian period lasted from approximately 800 A.D. to the sixteenth century, and is used to categorize broadly similar cultural manifestations across the Eastern Woodlands. It reached its peak and declined at different times and at different rates in different regions across the southeast, Central Mississippi

Valley and Midwest. “Mississippian” culture manifested itself very differently across a very large geographic region. Mississippian cultures in central Georgia looked very different than those in eastern Arkansas.

Overall, the period was characterized by an increase in centralized power and social hierarchy, organization of chiefdoms around regional seats of power, an increase in craft and artistic specialization and widespread distribution of art objects representing themes from a shared or mutually participated in ideology and mythology. Regional power centers, or spheres of influence (Knight 2006), often featured pyramid shaped or platform mounds. During this period, the inclusion of mussel shell temper in pottery became common. Iconographic themes were shared across pottery, engraved shell, embossed copper, rock art and other artwork. These objects, raw materials and ideas were traded across a vast trade network that extended across North America. Across most of the southeast, the Mississippian period was drawing to a close by the arrival of European explorers, transitioning to other ways of life that varied regionally.

In eastern Arkansas and the Mississippi Valley, the Mississippian period featured fortified villages surrounded by farmsteads. Populations relied heavily on farming. Deer, fish and migratory waterfowl appear to have been important sources of meat and faunal material. In general, village sites in this region were located on old terraces or near oxbow lakes instead of active river channels (Morse and Morse 1983; Rogers and Smith, ed. 1995; Dye and Cox, ed. 1990). The Mississippian inhabitants of this region relied more heavily on aquatic food sources such as fish and turtles than their upland neighbors (Compton 2009).

In the Caddo region of south central and southwestern Arkansas, this period included many of the same characteristics. However, there was less fortification and centralization of villages. While communities appear to have been affiliated with neighbors near and far via the

same trade and ideological networks as their Mississippi Valley counterparts, the goods and ideas obtained were incorporated, re-interpreted and manifested in different patterns of architecture, community organization and material culture.

Relatively little is known about the Mississippian period in the Central Arkansas River Valley compared to neighboring societies in the Mississippi valley and southwest Arkansas. According to the Automated Management of Archeological Site Data in Arkansas (AMASDA) at the Arkansas Archeological Survey, there are 326 sites located in the Arkansas valley that are recorded as Mississippian in age or have a Mississippian component. Two hundred forty-six of these are located within the study area for this project. Of those, 16 are mound sites. Forty-eight of them are bluff shelters and 31 of those have rock art images recorded at them. One hundred eighty-seven of the 246 are within 100 m of a water source, and all are within 1 km. One hundred eighty-five are located on the floodplain or a terrace of the Arkansas River or one of its tributaries. Many of these sites were recorded as part of phase-one survey projects and little or no subsequent archaeological work has been conducted at them. They were often recorded and classified temporally based on limited lithic scatters (or sometimes a single artifact) or very ephemeral artifact scatters. Temporal classification to the Mississippian period is often based on dated or limited information, or on similarity to sites and artifacts at a great geographic distance. Subsurface investigation and investigation and publication of features is needed to resolve this issue at regional levels. Such excavation has been conducted at a very limited scale in the Arkansas River Valley.

Two Mississippian sites in the Central Arkansas River Valley excavated by the Arkansas Archeological Survey are the Point Remove site (3CN0004) and the Alexander site (3CN0117) in Conway County. The Alexander site was partially excavated prior to construction of a

reservoir in the larger Conway Water Supply project conducted by the Sponsored Research division of the Arkansas Archeological Survey. Although now inundated by a reservoir, the site was located on a low rise in a floodplain terrace of Cypress Creek. Only slightly higher (less than 1 m higher than the surrounding area), this rise was well drained and would have provided a dry habitation location. Archaeologists determined the site to be composed of a midden mound consisting primarily of a Plumb Bayou (Late Woodland) and Mississippian occupation, although minor Marksville (Middle Woodland) and Archaic period components were noted as well (Hemmings 1985). Five burials excavated at the Alexander site are considered to be Mississippian in age. Three of these were children or infants and the other two were young adult males in a single grave, both of whom died violent deaths. The artifacts within the graves, included whelk shells and ceramic vessels, are indicative of typical Mississippian burial practices. Radiocarbon dates from the Mississippian components at the site, including burials, average to the mid-thirteenth century (Hemmings and House 1985).

The Point Remove site (3CN0004) was minimally tested by the Arkansas Archeological Society as part of their first annual training program in archaeology in 1967, in coordination with the Arkansas Archeological Survey. A number of mounds were originally documented at the site, which is in close proximity to Petit Jean Mountain and the Carden Bottoms site. As a focus of the 1967 dig, the largest mound at the site was partially excavated. It was described as a single oval shaped mound. Other mounds have been mentioned in the sites files housed at the Arkansas Archeological Survey. In his 2005 dissertation, Gregory Vogel used a series of historic aerial photographs to examine alterations to the topography of the site. The photographs show the presence of possible borrow pits around the large mound that was partially excavated; however the presence of other mounds remains uncertain. They may simply have been prairie

mounds or alluvial rises on the landscape (Vogel 2005). Land leveling and agricultural practices have made deciphering the original topography of the landscape difficult if not impossible.

No formal report was ever produced for the 1967 excavation, and only recently have efforts to relocate the area of excavation begun. In 2008, Arkansas Archeological Society member Alan Smith submitted a sample of charred material from a possible structure that was partially uncovered in 1967 (funded by an Archeological Research Fund grant from the Society). Beta Analytic laboratories dated the material at 530 +/- 50 (charred material; 13C = 27.5 0/00), or the mid to late fifteenth century. This possibly places at least some occupation at the Point Remove site at the terminus of the Mississippian period in this region. A cursory examination of the decorated sherds recovered in 1967 also suggests this. The entire occupational history of this site remains unclear.

A number of decorated whole vessels were recovered from burials at or near the Point Remove site by archaeologists and collectors beginning in the late nineteenth century. Edwin Curtiss, of the Peabody Museum, Harvard, visited the site in 1879. He collected whole vessels and other materials that are still in that museum today. A number of other whole vessels have been acquired from collectors and artifact dealers over the decades and are now in museums. Some of these vessels were documented for this project and are discussed in subsequent chapters.

The most well known Mississippian site in the Arkansas River valley is Spiro Mounds (34LF0040) in LeFlore County, Oklahoma. It was a major regional mound center that was occupied from about AD 850 to 1450. The Craig mound at the Spiro site was built over a hollow chamber filled with a huge amount of highly elaborate and finely made grave goods from across the Southeast and Central Mississippi Valley, referred to as the Great Mortuary. Unfortunately,

the site attracted the attention of looters in the early 1930s and was “mined” of its contents, many of which were destroyed in the process. The miners set off an explosion, destroying much of what remained, upon losing their digging rights at the site. However, thousands of artifacts had already been sold to collectors and museums around the world. Upon examining many of these artifacts, including textiles, engraved shell cups, copper plates, pottery, ceremonial lithics and basketry, archaeologists concluded that the Spiro site represented the westernmost outpost of the Mississippian era Southeastern Ceremonial Complex (Baerreis 1957). More recent work has identified an artistic style of objects that were manufactured at or near Spiro (Craig style) and others that were imported from other regional mound centers such as Cahokia (Braden style) (Brown 1996; Phillips and Brown 1978). Within the last two decades of archaeological and iconographic research, Spiro has taken on a key role in identifying and interpreting the intersection of art, iconography and material culture in the Mississippian world. Selected objects and images from Spiro are analyzed in greater detail in chapters five and six.

Sixteenth and Seventeenth Century Transformation

By the time written records ushered the people of the Central Arkansas River Valley into the historic period, it was a very different place than it was two centuries before at the time of the demise of Spiro. Gone were the hierarchically organized chiefdoms and regional mound centers. Shockwaves were still rippling through the Southeast from repeated epidemics of disease, increased conflict and political destabilization brought on by the expedition of Hernando de Soto across the region. Limited written records detailing the Central Arkansas River Valley exist. If the Arkansas River was in fact the river of the Cayas traversed by the de Soto expedition, then the various expedition accounts would provide the first “historic” written picture of the people that lived here. Subsequent written accounts about people living on the river are not available

until the late seventeenth and early eighteenth centuries from French traders and explorers. By the time regular written records were being generated for the region, the groups that lived here had consolidated or developed into groups bearing the tribal identities recognized today: the Caddo, Osage, Quapaw and Tunica, among others. Archaeology and ethnohistory have to “fill in the gap” of the century during which the Central Arkansas River Valley became home to the people who interacted with French and Spanish traders and explorers. The primary occupation at the Carden Bottoms site falls within this “forgotten century,” (Hudson and Tesser 1994). Using information derived from the de Soto narratives, and later French and Spanish accounts of neighboring areas in combination with archaeological data, it may be possible to examine this process of cultural transformation using the material culture of the region. First, it is necessary to examine the overall events of the sixteenth and seventeenth centuries that helped to shape and influence such transformations.

Hernando de Soto and the Arkansas Valley. In May of 1539, Hernando de Soto, accompanied hundreds of men, horses, livestock, dogs and tons of armor, weapons and goods, landed in Tampa Bay, emboldened with decrees from God and the King of Spain to colonize interior North America. After exploring and spending their first winter in what is now Florida, the expedition crossed into Georgia and continued up through the Carolinas into the mountains of east Tennessee. According to modern reconstructions of the expedition route, based on archaeological finds, it is believed that the group reentered the area that is now modern Georgia, proceeded into and across Alabama and Mississippi, reaching the Mississippi River in the Spring of 1541 (Hudson et al. 1984). Along the way the expedition had accumulated a number of slaves as a workforce and as translators. They had also fought fierce battles with groups along the way, most notably in the town of Mobila (modern day Alabama) where thousands of natives were

killed or wounded and the town was burned. Figure eight outlines the possible route that the entrada took across the Southeast (Hudson et al. 1984).

In the wee hours of the morning on June 18, 1541, when moonrise made an after dark crossing possible, de Soto and his army crossed the Mississippi River on rafts they constructed. The crossing point was likely near Walls, Mississippi (Dye 1993). Continuing efforts to locate gold and other valuable mineral resources had led the entrada northwestward toward where they were told they would find mountains (the Ozarks). They encountered the province of Aquixo after crossing. Captives from this province assured them that they would find gold with Pacaha to the north. After detouring around a large area of back swamp between Mississippi and St. Francis River meanders, the entrada arrived at the province of Casqui. On June 25, they reached the main Casqui town, widely considered to be the Parkin site (3CS0029) near the confluence of the Tyronza and St. Francis Rivers. A variety of beads, bells and other objects associated with a Spanish presence have been found at this site and in the vicinity (Dye 1993:48; Morse and Morse 1990; Morse 1993). With the accompaniment and assistance of some inhabitants of Casqui, the entrada journeyed to the main settlement of Pacaha less than a week later. This town is believed to have been at the location of the Bradley site (3CT0007) and a series of surrounding sites adjacent to it (Dye 1993:49; Morse and Morse 1990:202). After spending a month in the Pacaha province, sending out various small, exploratory parties and finding no gold, the expedition returned to Casqui. From there they crossed the St. Francis River, moving westward into the province of Quiguate (likely in Lee County) where they encountered the largest town to date. They then moved northwest and eventually into the foothills of the Ozark Plateau through the provinces of Coligua, Calpista and Palisema, likely the White and Little Red River drainages.



Figure 8. Route of the de Soto entrada, drawn from Hudson et al. (1984),

From here the expedition moved into the Central Arkansas River Valley and the province of the Cayas. The province consisted of dispersed settlements on both sides of the river in the Arkansas Valley north of present day Little Rock. “After what they had been told in Coligua, they expected to find a large and wealthy society in the province of Cayas. But instead of the compact, palisaded towns to which they had become accustomed at Quizquiz, Casqui and Pacaha, they found at Tanico a dispersed population,” (Hudson 1997:317). The expedition spent three weeks at Tanico, the first town in this province. The route proposed by Hudson et al. (1984), and the route most widely accepted by Southeastern archaeologists today, places this in the vicinity of the Carden Bottoms site (Early 1993a:70; Hudson 1997). Here they found settlements with houses widely spaced or scattered across the hilly topography, but the province as a whole still cultivated a remarkable amount of good quality corn. The Indians in this area also processed and traded salt from a nearby saline creek. It is possible that this creek was the West Fork of Point Remove Creek (Hudson 1997). After resting and feeding his horses on the Cayas’ corn, de Soto decided to move westward before winter. The chief of Cayas informed him that the province of Tula, a day and a half’s ride upriver was prosperous. He attempted to force the chief to provide interpreters and guides, but the chief asserted that while he could provide a guide, no one would be able to interpret for him. Cayas and Tula had been at war for some length of time and did not communicate (Hudson 1997).

In late September, de Soto and a small contingent moved westward to the province of Tula. They immediately encountered resistance and “were surprised at the bravery and skill of the Tula warriors,” (Hudson 1997:321) women and youth included. Although the contingent inflicted heavy casualties upon the Tula, de Soto decided to regroup before and return enforce. When the entire entrada returned to Tula, they found it deserted, but were soon attacked and a

fierce battle ensued. The Spanish considered the warriors of Tula to be the most formidable adversaries they had encountered to date and seemed to be universally feared by their neighbors (Hudson 1997). “The natives fought on foot and from their rooftops, and used spears and bows and arrows in combat. After the Spanish had assumed control of the community, the cacique and his entourage met de Soto with a ritualized display of weeping and gifts of cow (sic) skins,” (Early 1993a:71). These skins were likely buffalo hides and the accounts of the expedition make note of many “cattle” (bison herds) to the north of the Tula province. Based on these characteristics, scholars (Early 1993a; Hudson 1997) believe that the province of Tula was likely somewhere in the area now recognized as the Ft. Coffee archaeological phase, in the upper part of the Central Arkansas River Valley, possibly near present day Ft. Smith, Arkansas. Archaeologically, this phase represents descendants of the Mississippian Spiro phase people (Rohrbaugh 1982, 1984) who were likely part of the larger Caddoan family (linguistically at least) (Hoffman 1993).

After leaving Tula, de Soto’s entourage passed through the Ouachita Mountains, back into the Mississippi Valley along the lower Arkansas River where he died from a fever on May 21, 1542. Fearing the reaction of the Indian groups (who believed de Soto to be a deity, at his encouragement), members of his army sought to conceal his demise (at least physically) by disposing of his remains in secret (burying and then sinking them in the Mississippi River) (Hudson 1997). The remainder of the expedition attempted to reach Mexico overland across southwest Arkansas and Texas. However, they turned back toward the Mississippi after encountering resistance, internal strife and being unable to find adequate food for the entrada in the savannah and scrubland of east Texas. They constructed boats and floated down the Mississippi River, all while being pursued by various Indian groups in canoes and along the

banks of the river. Much of the time, these groups fired arrows upon the boats, killing and wounding several Spaniards in the process. They reached the Gulf of Mexico and sailed southwest along the coast, eventually reaching Mexico, having failed to find the glory and riches that initially drew many of them to the endeavor and terrorizing, brutalizing and destabilizing hundreds of communities across the Southeast.

Arkansas' "Forgotten Century." The narratives of the de Soto expedition provide the first written descriptions of the inhabitants of the Central Arkansas River Valley. It would be another 130 years before Europeans again described the region. In 1673, Jesuit missionary, Father Jacques Marquette and Louis Joliet, a fur trader, descended the Mississippi River and arrived at the mouth of the Arkansas River where they encountered villages of Quapaw Indians. There the Quapaw confirmed that the Mississippi River did indeed empty into the Gulf of Mexico, answering a major question of the Marquette and Joliet expedition. Fearing Spanish resistance, which the Quapaw assured them they would encounter further south, Marquette and Joliet returned to the Great Lakes region with their account of this region. In 1686, the first permanent European settlement was established in the form of a trading house at Arkansas Post, near the Quapaw village of Osotouy upriver from the mouth of the Arkansas. Henri de Tonti, who had traveled here with Rene-Robert Cavelier, Sieur de La Salle in 1682 when he established "ownership" of the locality for France and successfully traveled the Mississippi River to its mouth, was granted trading rights for the Arkansas River area (Arnold 1991). Although the post had some difficulty becoming established, the Quapaw and French seemed to mutually welcome the alliance as beneficial to both. The Quapaw were interested in obtaining guns and other European made goods via the French, while the French relied on the Quapaw for protection, interpretation and agricultural success (Arnold 1991, 2000). Other accounts by fellow

Frenchman Henri Joutel describe his encounters with the Caddo in southwest Arkansas in 1687 (Hoffman 1993; Jeter 1986). From these accounts, Europeans constructed the first “modern” picture of ethnic, cultural or “tribal” boundaries.

By the late seventeenth century, the ethnic groups recognized in the region (in the broadest sense) were: the Caddo in southwest Arkansas and the Ouachitas, the Quapaw, Tunica and Koroa along the lower Arkansas and the Osage, foraying into northern Arkansas on hunting excursions (Hoffman 1993). The Quapaw may be relatively late arrivals to the region, however. Quapaw oral traditions from the early nineteenth century suggest that they arrived in the lower Arkansas River vicinity from the north, driving out the Tunica (and possibly Michigamea), sometime after 1600 (Bizzell 1981; Hoffman 1993).

The issues concerning the identification of Native American ethnicity and “tribal” identification are numerous and problematic. However, for the purposes of this analysis it is not necessary to untangle the knots formed by the intersections of early written documents, oral traditions, archaeological evidence and legend. It is enough to know that between 1542 and 1673, the world of the Mississippians ended and a new ordering of ethnicity, cultural and geographical organization emerged. The factors at work shaping this new order are more a concern for this project. The primary site analyzed herein, the Carden Bottoms site, falls directly in the center of this “forgotten century” (Hudson and Tesser 1994) temporally and geographically.

This proverbial dark age between the end of initial Spanish exploration in the sixteenth century and the beginning of English and French exploration, colonization and trade, as well as the establishment of more permanent Spanish missions, has been called by the “forgotten centuries” by Hudson and Tesser (1994), and when the written record for Southeastern Indians

begins again in the 1600s, the historic Indian polities recognized by history today, are largely in place. As they summarize, the interior Southeast at this time remains “historically” unknown:

“After these initial explorations in the sixteenth century, Europeans did not venture into the interior in any significant way until the end of the seventeenth century. When they did they found that the native peoples had been transformed by vast demographic and social changes. The story of the native peoples of the American South in these early years is so thoroughly missing from general surveys of American history, it can with little exaggeration, be said that they are forgotten centuries,” (Hudson & Tesser 1994: 2).

The “Shatter Zone” in the Arkansas Valley. During this time, the population of the region was changed forever. Polities once powerful were destroyed, political alliances were forever altered and population was decimated. There is little question that the residents of the Central Arkansas River Valley were in a liminal state socially during this time. They lived in a transformative period. To what degree this was recognized by them remains uncertain, and is explored in subsequent chapters using art and material culture. In order to investigate how they coped with this liminal state and restructured socially through it, it’s necessary to examine the multitude of causal factors that socially destabilized the protohistoric Southeast.

The effects of the this period are best examined using the “Mississippian Shatter Zone” framework proposed by Ethridge (2006) and illustrated by Ethridge and Shuck-Hall (2009) in an edited work by that title. The shatter zone concept is meant to serve as an analytic framework for examining the rapid, widespread and fundamental social change that occurred during this time. As Beck observes, the shatter zone model “begins to provide a vocabulary for thinking about the cultural dislocations of the early colonial era, when native peoples across the region were forging new modes of social and political organization from the remnants of the Mississippian world,” (2013:7). As Ethridge characterizes it, “The Mississippian shatter zone is intended as a kind of big picture framework for conceptualizing and explaining the

destabilization and reformation of Southern Native societies by offering a regional framework for integrating events and people from the Mississippi Valley to the those in the Atlantic region into a single interactive world,” (2009:2).

The model maps this shatter zone “spatially, temporally and conceptually” and suggests that in order to understand a given site and its inhabitants during the early historic period, the following factors have to be considered with regard to the formation of its condition at any given time: 1) epidemic disease, 2) trade, 3) conflict, and 4) slavery. Understanding these forces at work between the sixteenth and eighteenth centuries requires a multicausal model such the shatter zone model (Ethridge 2009:12).

It is unclear how these forces were at work in the Central Arkansas Valley, what the specifics of their interplay may have been, or to what degree they affected the lives of the valley’s inhabitants. They at least moderately affected life, and more likely were instrumental causes of the transformative processes that occurred within the societies there. But due to the lack of documentary and archaeological evidence for the region, it is necessary to consider a regional model to better interpret the seventeenth and early eighteenth centuries. Each of the causal factors included in the framework of the shatter zone model are discussed below, and when possible applied to the Arkansas Valley.

The spread of epidemic disease has long been considered to be the major cause of destabilization and transformation across the southeastern United States. However within the last two decades historians and anthropologists have been revising this assessment. Whereas it was once believed that de Soto and his men spread disease quickly and virulently through the Southeast, leaving virtual graveyards in their wake, some now posit that epidemic disease in the region did not reach their full effect until the early 1600s (Kelton 2007). Indeed it is more likely

that disease spread in waves beginning with the de Soto entrada and continuing into the nineteenth century. There is limited evidence that disease was a major depopulating factor in the late sixteenth century, but diseases such as small pox and measles, as well as many others that kill relatively quickly, do not leave evidence on skeletal remains (Ethridge 2009). That said, it is still unlikely that the de Soto expedition served as the primary vector for pandemic diseases in the Southeast. The demographic makeup of the entrada was that which was least likely to have been actively carrying much in the way of known epidemic diseases. The young and middle-aged men would have likely been exposed to and survived most of these in their youth. Furthermore, diseases such as small pox, would have run their course fairly early on in the expedition and would likely have been noted in at least one of the accounts. In several instances, the entrada doubled back and returned to communities or localities that they had stayed in days, weeks or months before. It stands to reason that epidemic disease would have been apparent if it had been present within the native population and would have found its way into the accounts of the expedition (Ethridge 2009; Kelton 2007, 2009).

Limited analysis specific to the role of disease in the transformation of the Arkansas Valley is available for comparison. Burnett and Murray (1993) produced a comparative bioarchaeological analysis of 391 individuals from protohistoric populations in northeast Arkansas, east central Arkansas and southwest Arkansas. The population from northeast Arkansas is dated to the AD 1450-1600. The east central Arkansas population is from the Arkansas River Valley, part of the Menard Complex (Jeter, Cande and Mintz 1990) of the lower river valley and dates to AD 1600-1700. The southwest Arkansas population is Caddo in origin and dates to AD 1650-1750. Interestingly, and supportive of the interpretation of the role of disease in depopulation outlined above, the Menard Complex group appears to have suffered the

greatest impact (based on the age of individuals at death) of epidemic disease, occurring during the height of the “forgotten century.” The Mississippian period groups from northeast Arkansas do not appear to have experienced the same level of impact from disease, and the individuals in southwest Arkansas may have been shielded somewhat by more dispersed settlement patterns and isolated geographic region. “It may be that during this time [1600-1700] European disease had begun its movement through the major waterways linking the Arkansas River Valley to the rest of the Southeastern United States,” (Burnett and Murray 1993:236). While this does not provide direct evidence for the impact of disease in the Central Arkansas River Valley at localities such as Carden Bottoms, it’s important to consider, as that site dates to the mid seventeenth century – the peak of the Arkansas’ “forgotten century.” Its effect is not to be underestimated, though. As Patricia Galloway notes:

“When these diseases did take hold, they most frequently killed the very old and the very young. By taking the very old, they took the traditions of the society and, where religion and kinship and the arts of prophecy had come into the hands of specialists, a good deal of the culture that made it what it was. By taking the very young, they took the society’s hope for the future and thus doubtless a good deal of its vitality,” (1994:397-398).

Determining the impact of warfare and the native slave trade in the Central Arkansas Valley is even more difficult than examining that of disease. There are virtually no excavated and analyzed burials from the area to examine for signs of violence and no documentary evidence focusing on the role of the Indian slave trade there. Elsewhere in the South and Southeast, the slave trade of Indians became prevalent after 1650 as a demand for labor by the English colonists in the east increased (Beck 2013; Ethridge 2009). Alan Galloway estimates that between 1685 and 1715 at least twenty-four thousand, and possibly upwards of fifty thousand, Indians were enslaved to meet English labor demands (2002: 298-299). Increasingly, scholars of the Protohistoric Southeast are reassessing the role that this slave trade played in destabilization

and depopulation. The forcible extraction of the young and reproductive segments of a population through slavery and the subsequent conflicts over this and migrations to escape it served to enact a level of destabilization that disease alone could not. Where it was still in existence by the seventeenth century, this “slaving was more than sufficient to stress a simple chiefdom beyond its breaking point, especially if one combines slaving with population losses from disease episodes,” (Ethridge 2009: 15).

The impact of the sudden engagement with global capitalist economies also cannot be overlooked in the examination of cultural transformation in the Southeast. Usner (1987) classified this emerging economic network as the “frontier exchange economy,” a system in which animal skins (and to a lesser degree other raw materials and agricultural products) were traded to Europeans in exchange for guns, alcohol, cloth and other European goods. The volume by Ethridge and Shuck-Hall (2009) is quick to point out the importance of the exchange of slaves in this economic network as well, as discussed above. In many instances “militaristic Native slaving societies” managed to control access to this economic network (Ethridge 2009: 2).

Participation in this economy also served to undermine traditional criteria for determining social value and socio-political power (Axtell 1997; Ethridge 2009; Usner 2987). Traditionally, positions of leadership and power were decided and transferred within communities based on lineage and age. The frontier exchange economy had something of a leveling effect, at least for a time:

“An Indian man who had a modicum of influence over a particular faction could broker good trade deals and rise in prestige and authority. An Indian man’s position became tied to his access to European trade goods and his political, business, and diplomatic acumen. The overall effect was at once a leveling of political power and a check on the rise of any one person to political prominence. With the chiefdom political order revamped, we also see the disappearance of those emblems of power and authority associated with the hierarchy. People quit building platform mounds; craftspeople quit producing elaborate religious and

political paraphernalia; the priestly cult used to buttress the elite was transformed into a cadre of prophets administering to the common person; and chiefs were no longer considered divine but mortal men and women,” (Ethridge 2009: 40).

In this analysis, cultural continuity, or what didn't change about the Central Arkansas Valley societies between the time of de Soto and the historic period (or at least AD 1650) is as important as what did change. In order to hypothesize about who may have inhabited this region and the Carden Bottoms site and constructed the thousands of pottery vessels and other objects from the area, archaeologists need to know how they compare to the neighbors in time and space. What characteristics they chose to preserve in their artwork may shed light on what was considered important iconographically and culturally, providing some insight into who the artists may have been. Continuity may be as simple as returning to a place or the building a protohistoric community on a Mississippian mound site (even if the constructing group has no ethnic connection to the original Mississippian inhabitants) simply because the cultural and spiritual significance of the site is still recognized on some level. Colonial era groups often did this and restructured the meaning of these earthworks to have a new edifying and reaffirming significance (Knight 1989). In a more nuanced sense, aspects of social organization based on autonomy and authority within hierarchical chiefdoms (ordered and reinforced through kinship and clan structure) were sometimes reordered to accommodate and maximize success in the new, capitalist frontier economy (King ed. 2007). The break between prehistory and history in Southeastern Native societies was not as sudden and cataclysmic as once believed, and as much interpretive and explanatory power lies in understanding how things remained the same as does in recognizing change.

Liminality in Time and Space. The circumstances described above are certainly enough to place communities in the Central Arkansas River Valley into a socially liminal state, as least

as defined in a post hoc fashion. As there are no historical records to draw from, the ramifications of this, in this instance, are best explored through the artworks and other categories of material culture left behind. The communities of this area existed in a state of liminality bounded and defined by time and space.

The region lies sandwiched between the Southern Plains, which did not suffer the affects of a shatter zone per se, and the Mississippian realm, which did. The inhabitants of the area, at least at the Carden Bottoms site, appear to have flourished here (at least for a time) during this liminal, forgotten century.

It would appear that the people of this region entered into the early sixteenth century as Mississippians and emerged one hundred and fifty years later as precursors of modern tribal entities. As Thomassen outlines, liminality in any context has a temporal dimension. In this case, it relates to a period or epoch in which a whole society is a part of a much larger regional state of liminality (Thomassen 2009: 16). I argue, based on the evidence presented above, the Central Arkansas River Valley at this time is a prime example of such a situation. Archaeology, iconography and material culture take on increased significance during such times, as people draw on the objects and images most familiar as representations of a previously ordered world. They rise to the forefront in interpreting social interaction and the transformative processes at work at this juncture in space and time, thus providing an opportunity to inform and expand the archaeological approaches in use today.

CHAPTER THREE: RECENT RESEARCH IN THE CENTRAL ARKANSAS RIVER VALLEY

As stated in the previous chapter, archaeological research is the only avenue left to researchers hoping to reveal details about the transformation of societies in the Protohistoric Central Arkansas River Valley. While the history of “digging” in the valley is long, only recently have professionally conducted, large scale projects begun to shed light on this time period. This is not to suggest that artifacts that were obtained via looting or early archaeological excavation, but are now in museum collections, have little research value. In fact most of the whole vessels and other objects included in this analysis were obtained this way. It has been demonstrated (Mainfort 2008; Walker 2008) that there is still a great deal to be learned from old museum collections. In fact, identifying the imagery and artistic style represented within such collections is a primary goal of this analysis. However, it is necessary to establish as much context as possible for these objects. This includes understanding where they came from, and how they were acquired. Targeted archaeological inquiry is helping to provide a context for the creation and use of the objects in these collections and will ultimately help answer questions regarding who lived in the Central Arkansas River Valley and what happened to them.

Looting and Subsequent Archaeological Research

The Arkansas River Valley first gained widespread archaeological attention in the late nineteenth century. Increased Euro-American settlement and subsequent development and agricultural practices, combined with a series of floods, exposed archaeological remains and gravesites throughout the river valley. Over the course of a century, thousands of artifacts were removed from sites and graves by tenants, looters and amateur archaeologists. The looting of sites in the valley reached a peak during the first half of the twentieth century, particularly during the great depression. Tenant farmers would dig in the fields surround their homes during off

times when the fields were not in cultivation, sometimes including or assigning this task to children as a means of occupying their time. Artifacts were then sold when the family went to “town.” “Red Cross days” in Dardanelle were also a time to sell artifacts to local dealers to earn extra money while picking up relief needed for the family’s survival in the depression era river valley (*Arkansas Democrat* 1933). It seems that the activity became something of a minor industry in the area at the time. An article in a local paper noted the frequent occurrence of the activity, the national attention and its potential profitability, indicating that it was not uncommon for “relics” from one grave to sell for more than \$50 (*Dardanelle Post Dispatch* 1924). Using an inflation calculator based on the consumer price indexes recorded since 1913, that amount would be more than \$639 today, not considering demand or differential value now placed on art objects and antiquities. This in no way excuses the manner in which these graves were desecrated, but it does provide more insight into the motivations of the impoverished sharecroppers and farmers who did much of the digging in this region. Fortunately, a number of state and federal laws have since been passed to criminalize and discourage looting of archaeological sites and generally undermine the commercial value of artifacts (especially those obtained from illegally looting burials).

The Carden Bottoms area became something of a regional epicenter for looting activity during this time. Newspaper accounts as early as 1892 describe finding “Indian pottery and other relics,” when high water washed away portions of the riverbank (*Arkansas Gazette* 1892). Local collectors were attaining regional and national notoriety by dealing in the highly decorated, unique objects found at Carden Bottoms and other local sites (*Arkansas Gazette* 1908). Collector/dealers such as H.T. Daniel (Figure 2) and G.E. Pilquist sold pieces to S.C. Dellinger of the University of Arkansas Museum and Judge Harry Lemley of Hope, Arkansas.

Much of Lemley's collection was later purchased by the Gilcrease Museum in Tulsa, Oklahoma. This collection along with those purchased by Dellinger for the University of Arkansas Museum and by Mark Raymond Harrington of the Heye Foundation form the majority of the assemblage analyzed here. Harrington visited the Carden Bottoms site in January of 1924. He made a purchase of around 200 vessels and spent at least one day at the site where local residents were digging artifacts. Photographs taken during his visit show individuals probing the ground and digging with shovels (Figures 9 and 10). Unfortunately the exact location of the digging at the site is unclear in the photos. It is possible that the low shadow across the horizon in figure ten is Petit Jean Mountain in the distance, but that is uncertain. Somewhat shocked by what he observed, he noted the following in his account of the trip:

“As we approached the ridges the little groups of diggers made a weird picture as they toiled in the mud, unmindful of drizzling rain and flurries of snow. Crops had been poor last year, money was scarce and so they were improving every moment of daylight. But it was sickening to an archaeologist to see the skeletons chopped to pieces with hoes and dragged ruthlessly forth to be crushed under foot by the vandals who were interested only in finding something to sell, caring nothing for the history of a vanished people,” (Harrington 1924:3-7).



Figure 9. Digging in Carden Bottoms, showing man in foreground probing for artifacts. Photo taken during visit by M. R. Harrington, January 1924. National Museum of the American Indian, Smithsonian Institution (NO8889).



Figure 10. Digging in Carden Bottoms, January 1924, possibly showing Petit Jean Mountain in distance. National Museum of the American Indian, Smithsonian Institution (NO8888).

Looting of archaeological sites was widespread across the central and southern United States at that time, but because of the type, quantity and uniqueness of artifacts found at sites such as Spiro, Carden Bottoms and Menard, the Arkansas River Valley attracted worldwide attention. A number of individuals in the region acted as “middle men,” in the artifact market, purchasing items from those who dug them and passing them on to collectors, museums, universities and other institutions across the world (Hoffman 1999).

Soon enough, academic institutions and professional archaeologists began conducting fieldwork in Arkansas and the Lower Mississippi Valley as a whole. Institutions from outside of Arkansas also conducted excavations at sites in Arkansas, taking large collections of their findings back to their host locations. By the 1920’s S.C. Dellinger of the University of Arkansas Museum was outraged at the situation:

“Imagine my chagrin when I visited such museums as Peabody at Harvard, the National at Washington, D.C., the one at the University of Michigan, the Heye

Museum of the American Indian at New York and found that their finest and most valuable Indian displays had been sent from Arkansas. Specimens are there that can never be found again in our state. They were sold to the big museums for a nominal sum. They are not like a crop of cotton or corn that can be grown again but when these go out of state they are lost forever. In many instances they were simply collected by expeditions of the sort that are sent into more backward states or countries," (*Arkansas Alumnus*, January 1930:5).

Largely in response to this situation, Dellinger himself began acquiring, via purchase, trade with other institutions and excavation, archaeological artifacts from sites across Arkansas. The largest single collection of whole ceramic vessels from the Arkansas River Valley is now housed at the University of Arkansas Museum Collections Facility in Fayetteville, Arkansas, a result of Dellinger's efforts. Two other major collections of artifacts from the region are housed at the Gilcrease Museum in Tulsa, Oklahoma and the National Museum of the American Indian, a part of the Smithsonian Institution in Washington, D.C. These three collections were documented for this analysis. Numerous other collections around the world contain archaeological materials from the region, as well. Unfortunately, in many cases, the best information we have regarding the provenience of these items simply stops with county or site level information.

Edwin Curtiss may have been the first representative of an academic institution or museum to excavate in the Central Arkansas River Valley, when he visited the Point Remove site (3CN0004) in 1879. His work there, briefly discussed in the previous chapter, was limited. Curtiss arrived in Arkansas in the early fall of 1879 with the intention of focusing his excavations on the mounds of the St. Francis River Valley in eastern Arkansas. However, a yellow fever outbreak delayed him in Little Rock until late October (House 2003; Mainfort and Demb 2001). It is possible that the materials from Point Remove were excavated during this time. Curtiss excavated at a number of major mound centers in eastern Arkansas, often

generating detailed records and maps of his work. Between the fall of 1879 and the spring of 1880 he excavated over one thousand pottery vessels that were sent to the Peabody Museum at Harvard University. He also acquired numerous other artifacts that are in collections there as well.

The expeditions of Clarence Bloomfield Moore are well known to researchers in the Southeast. The Harvard educated, Philadelphia businessman began excavating at mound sites in the Southeast in 1892. Sailing up rivers throughout the region in his steamboat, the *Gopher*, Moore and his crew documented and excavated hundreds of sites. His work was routinely and quickly published by the Academy of Natural Sciences in Philadelphia, and he often coordinated with other scientists and scholars in analysis of his finds. The majority of the material that he excavated, as well as his notes, are in museums and available for study. For many of these sites the information Moore gathered and objects he and his crew excavated is the only knowledge archaeologists have of them. Between 1908 and 1913, Moore traveled up and excavated along the White, Arkansas, Mississippi, St. Francis, Red, Saline, Little and Black Rivers, as well as Bayou Bartholomew, in Arkansas. After becoming disappointed with his investigation along the Yazoo and Sunflower Rivers in Mississippi, Moore turned his attention to the Arkansas River in the spring of 1908. Because of the unplanned nature of his work on the Arkansas, he did not send crew members out in advance of his arrival to locate sites, secure land owner permissions, etc. Moore and the *Gopher* ventured as far upriver as Natural Steps, approximately twenty miles upriver from Little Rock. However, he does not detail any investigations there, either because he did not excavate or he deemed any excavations that he did conduct as unsuccessful. In his 1908 volume, *Certain Mounds of Arkansas and Mississippi*, he describes six sites on the lower

Arkansas River and the objects that he excavated from them, as well as providing the first comparative archaeological description of the sites in this region.

The sites he collected material from include: Menard Mound (now referred to as Menard-Hodges, 3AR0004), Old River Landing (3AR0014), Douglas Mound (3LI0019), Sawyer's Landing (Arkansas County), Goldman Field (Jefferson County) and the Greer Mound (3JE0050). Of these six locales, only the Greer site is included in this analysis. However, a brief overview of Moore's work at the other sites is warranted as the whole vessels excavated on the lower Arkansas and later on the Ouachita, Red and Mississippi Rivers are important comparative sources for items from the Central Arkansas River Valley. Moore concluded that most of the sites he visited on the lower Arkansas were Protohistoric sites, based on the presence of metal (brass) and glass (Moore 1908). Moore only investigated mound sites and sites immediately surrounding them. In general he noted that skeletal remains from the burials he excavated were poorly preserved, but some remains were sent to the United States Army Medical Museum for further analysis. Pottery was generally placed at the head of individuals, even when bundled, and the "smallest vessels usually accompanied children," (Moore 1908:482-483).

Native copper and raw pigments of kaolin (white) and iron oxide (red) were also chemically analyzed and identified using the common methodology of the time. His identification and analysis of these pigments is particularly important to subsequent parts of this analysis. After finding masses of red and white pigment included with graves at several locations he noted that the red varied in intensity based on how much clay it was mixed with. "The white masses from several localities are almost pure kaolin and doubtless are the same as the white material used on the vessels," (Moore 1908:285). He continues: "The black coloring matter occasionally found on the vessels of the lower Arkansas seems to be hardly more than a

stain, and does not lie on the vessels in a coating as do the ferric oxide and the clay. We have not been able to obtain enough of this material to make an analysis,” (Moore 1908:285). This is similar to what has been observed on the sherds excavated at Carden Bottoms, as well as on the whole vessels in the museum collections documented. It is discussed in detail later in this chapter. He identified flaring rim bowls and bottles as the most common vessel forms, with the “teapot,” or bottle with spout, being a vessel form unique to the region. A number of effigy and red and white painted vessels were observed as well. The most common motif observed on vessels from the area was variations of the interlocking scroll. Pottery was generally shell tempered and the paste was light in color (Moore 1908:284-285). These are very broad, early observations that have been expanded on by subsequent work in the lower Arkansas River Valley (Ford 1961; House 1991, 1997, 2002, 2013a; McGimsey 1989). While the archaeology of the Lower Arkansas Valley is worthy of volumes of work itself, it is not the focus of this one, which remains concentrated on the central portion of the Arkansas.

The Greer site (3JE0050) is located adjacent to a meander bend of the Arkansas River between Little Rock and Pine Bluff. Moore dug in two areas adjacent to the mound. He excavated 80 burials and 160 vessels. Most of the vessels were undecorated. The primary techniques of decoration were trailing, and incising or engraving, often with red pigment infilling the lines of the decoration. Whereas painting was the most common decorative technique he found at sites downriver, he found only one example of it at Greer (Moore 1908: 532-556). One of the landowners associated with the site also dug 47 vessels from the site. Those vessels were sold to H. J. Lemley, and in turn to the Gilcrease Museum (Rolinson 1988). They are included in this analysis.

During the late 1970s and 1980s, portions of the mound began eroding into the cut off channel. In 1986, prior to stabilization and depositing compacted fill and quarry-run stone to prevent further erosion, the U.S. Army Corps of Engineers contracted with the Arkansas Archeological Survey to clean and document the eroded surface of the mound and monitor the stabilization process. Profiles of the mound were generated and the mound was determined to be a primary platform mound with a smaller secondary mound. It appears to have been constructed in stages; the platform portion in two stages, serving a surface for placement of the secondary, smaller mound. The platform section showed indications of at least one wattle and daub structure, and Native American burials were located in cemetery areas off of the mound. An historic cemetery is located on the mound (Rolingson 1988).

A total of 155 sherds were recovered during profiling. Most are plain. Table one outlines the various types of sherds identified at the Greer site. The ceramics are predominantly shell tempered and the most common technique of decoration is trailed lines. “All of the decorative styles can be placed in the late Mississippian into the early protohistoric period, ca. AD 1400-1700. The predominance of curvilinear trailed designs and the Mound Tract Incised and Brushed type indicate that the occupation is toward the end of this period rather than the beginning,” (Rolingson 1988: 63).

Type	Baytown Plain	Mississippi Plain	Bell Plain	Barton Incised	Grace Brushed	Mound Tract Incised-Brushed	Old Town Red	Pouncey Ridge Pinched	Vernon Paul Annliaque	Applied	Engraved	Incised	Punctated	Trailed	Total
Count	13	92	4	1	3	6	1	2	1	1	1	3	1	26	155

Table 1. Counts of decorated sherds, by type, from the Greer Site (Rolingson 1988).

The Kinkead-Mainard site (3PU0002) also received professional archaeological attention in the early twentieth century. It was partially excavated by the University of Arkansas Museum in April of 1932, one of the locations for excavation chosen as part of Dellinger's reaction to the looting and widespread scattering of Arkansas' archaeological resources. Dellinger's position was largely influenced by that of the National Research Council (NRC) and its Committee on State Archaeological Surveys (founded in 1920), which encouraged regional professional and amateur archaeologists to interpret Native American cultures by establishing links between archaeological materials and modern ethnic groups (a version of the direct historical approach, although not framed as such at that point) (O'Brien and Lyman eds. 2001). Dellinger was an attendee at the December 1932 Conference on Southern Pre-History in Birmingham, Alabama, hosted by the National Research Council. He presented a description of his ongoing archaeological research in Arkansas (O'Brien and Lyman eds. 2001:36). The influence of the NRC and its directives is apparent in his subsequent work in Arkansas conducting regional archaeological surveys.

No structures or other features associated with habitation or domestic contexts were excavated at Kinkead-Mainard. Since the objective of the excavations was to obtain whole vessels, burials were targeted, as they were thought to be more likely to contain them. One hundred and twenty-two vessels were excavated (primarily from burial contexts), and 102 of those are included in the whole vessel analysis in chapter four.

The site is located on a natural levee adjacent to a former channel of the Arkansas River, and no mound has ever been recorded on the site. It lies near Natural Steps, the furthest locale upriver visited by C.B. Moore. However, since it's apparently an open cemetery site, lacking a mound, it appears he likely did not excavate here. The Maumelle River is located to the south of

the site. Pinnacle Mountain is located a short distance away on the same side (south) of the river. Rector Hill is immediately across the Arkansas River from this area, and the two hills form a prominent frame on the landscape when viewed from the river.

The Kinkead-Mainard site's proximity to other Protohistoric sites in the river valley, as well as its reputation among collectors and locals for having similar types of artifacts, prompted Dellinger to select it as a site for excavation. In 1932 he sent Charles J. Finger and James Durham to direct excavations, with the goal of examining the ethnic identity of the site's inhabitants and obtaining whole archaeological specimens. Questions had surrounded the ethnic or "tribal" identity of the Arkansas River Valley's inhabitants since the onset of work at the turn of the twentieth century. Harrington observed the following about the ceramic vessels from Carden Bottoms:

"It is certain, however, that a considerable part of the pottery is typically Caddo, especially the ware engraved after firing and much of that with patterns incised before heat was applied. Another large element, dark and not so well made, with occasional animal effigies, resembles the typical pottery of eastern Arkansas, which may be Quapaw; the painted ware may belong to this group, and it may not, - the exact connection has not yet been satisfactorily worked out. Certainly the impression produced by the Carden Bottoms collection as a whole is that it was made by at least two or perhaps three separate peoples," (Harrington 1924:3-7).

The prevailing point of view at the time dictated that the excavation of burials was necessary to examine the question of ethnicity archaeologically. A total of 57 burials were opened at the Kinkead-Mainard site, distributed in five clusters. Skeletal preservation was generally very poor, and most individuals appeared to have been buried in a seated position. The burials were located between one and one-half meter below the ground surface in a gray clayey soil. Remains from 19 individuals were collected and returned to the University of Arkansas Museum (Finger 1934). One hundred and twenty-two whole, or nearly complete vessels were

collected from graves and also returned to the museum. A number of arrow points, discoidals, shell beads, copper beads, bands and nuggets, and one greenstone spatulate celt were also collected from the graves. One hundred and two whole vessels from Kinkead-Mainard are included in this analysis and the other materials, previously documented, will be detailed in subsequent publications.

The material from this excavation was described and placed within a temporal and regional context in an *Arkansas Archeologist* article by Dr. Michael P. Hoffman in 1977. He determined the site to be an upper Arkansas River element of the Quapaw phase. The archaeological phase was first defined by Phillip Phillips (1970:943-944), based on the work of James Ford (1961) at Menard and neighboring sites. Correlating artifacts and European trade goods found at the Menard site, Ford determined it to likely be the location of the seventeenth century Quapaw village of Osotouy; the neighboring sites represented the Mississippian and later Protohistoric components of Quapaw communities in the region. Over time, this phase was subsequently applied to sites further upriver, as far as Carden Bottoms (Clancy 1985). However subsequent ethno-historic and archaeological refinement by Hoffman (1990) and others (Jeter 1986; Jeter et al. 1990; Rankin 1993) determined that this correlation between historically recognized tribe and limited archaeological remains is premature. Oral tradition, history and linguistic evidence suggest that the Quapaw may be relatively late arrivals in the lower Arkansas River Valley. Other groups, perhaps the Tunica, may have been residing in the area prior to the seventeenth century. Thus the term “Menard complex” has since been used within the archaeological literature when referring to the Protohistoric archaeological manifestations found on the lower Arkansas River (House 1991, 2013a; Jeter et al. 1990). Additional archaeological investigation is

needed to further resolve this paradox of identity, material culture and history on the Arkansas River.

Recent Archaeological Investigations in the Central Arkansas River Valley

A number of contract archaeology projects have been conducted in the Central Arkansas River Valley as part of cultural resource management programs or projects by state and federal entities. However, these were primarily phase one (survey) or phase two (limited testing) projects that either focused on a different time period or were not extensive enough to provide the amount of data needed to address questions of large scale and magnitude. Within the last two decades, large projects have begun that will hopefully provide the data necessary to begin to fully examine the Protohistoric life in this region.

Rock Art in the Central Arkansas River Valley. Recognizing the need for “big” projects to tackle questions about who lived in this area during the late prehistoric and Protohistoric period and made the rich artworks that gave the region such notoriety in the early twentieth century, the Arkansas Archeological Survey again focused attention on the region beginning in 2000. In that year, Dr. George Sabo III of the Survey’s Fayetteville research station, received a grant from the Arkansas Humanities Council to organize and streamline existing documentation on rock art sites, standardize documentation procedures and produce a website and popular publication about Arkansas’ rock art. This was followed in 2003 by a grant from the National Endowment for the Humanities to further document rock art in Arkansas and situate it within the regional landscape as well as that of the iconographic and socio-political context of the Southeastern Ceremonial Complex. Over the course of these two, concurrent projects, over 200 rock art sites have been recorded (or revisited) with thousands of individual elements. As part of the documentation, the site is carefully mapped; each individual element is measured, traced (when

deemed safe for the image), photographed and described (Figures 11 and 12). Any arrangements of elements into panels are noted and the general characteristics of the site are documented. Particular attention is given to the position of the site on the landscape in relation to any notable cultural or natural features.

The Central Arkansas River Valley contains a concentration of stylistically and thematically similar images distributed on bluff faces and in shelters on erosional remnants such as Petit Jean Mountain, Carrion Crow Mountain, Manitou Mountain, Dardanelle Rock and others throughout the Central Arkansas River Valley. Much of the rock art in this region appears to have been created in late prehistoric or Protohistoric times, an assumption based on its stylistic, technical and thematic similarities shared with the pottery and other objects found on late prehistoric and contact period open sites (such as Carden Bottoms) in the valley.

Most of the rock art of the Central Arkansas River Valley is in the form of pictographs (painted images, most often red), but there are some instances of petroglyphs (pecked or incised images) (Figure 13a and 13b). A number of images are virtually identical between artistic mediums, rock art and pottery (Figures 14 and 15). The similarities between categories of artistic expression, combined with the consistent and thorough documentation of the projects (rock art, museum documentation and excavations) present an opportunity to systematically define a geographic artistic style for this area and further situate it within a temporal and larger cultural and regional context. Chapter five integrates the information and imagery from the various artistic mediums in the region and defines such a style, but first it is necessary to further outline the cultural context defined by excavations at the Carden Bottoms site.



Figure 11. Mike Evans and Jared Pebworth of the Arkansas Archeological Survey mapping a shelter with rock art on Petit Jean Mountain. Photo courtesy of Arkansas Archeological Survey.



Figure 12. Larry Porter of the Arkansas Archeological Survey documents rock art imagery in the Central Arkansas River Valley.



Figure 13a (left). Pictograph from site 3PP0141 and 13b (right) petroglyph from 3JO0075.



Figure 14. Interlocking hook or scroll motif in pictograph in Rockhouse Cave (3CN0020), Petit Jean Mountain.



Figure 15. Vessel with interlocking scroll motif from Carden Bottoms. Vessel number 5425.1608 Gilcrease Museum, Tulsa, Oklahoma.

Archaeological Excavations at Carden Bottoms

Between 1992 and 1994 Dr. Leslie Stewart-Abernathy, station archaeologist at the UA-WRI research station, conducted test excavations in Carden Bottoms. While documenting sites in the very large bottomland area, ranging from Dalton through Mississippian, Stewart-Abernathy and volunteers from the Arkansas Archeological Society encountered a high density area of Protohistoric artifacts while surface collecting. Speculating that the Carden Bottoms area may have been the village of Tanico visited by the de Soto entrada, and hoping to further investigate this possibility, the crew excavated a series of test units in the winter of 1993. Portions of a refuse filled feature (Feature 10) were excavated and contained Native American habitation debris along with European objects (including glass and brass beads) (Stewart-Abernathy 1994). Many decorated sherds were found within the pit and were compared to

decorative techniques found on vessels in museum collections. Decorative techniques on the sherds were found to be similar to some of those found on the whole pots (Walker 2001).

In 2009, the Arkansas Archeological Society hosted its annual summer training program in archaeology at Carden Bottoms and focused on excavating the remainder of this feature. Under the direction of Stewart-Abernathy, the possibility that the feature was in fact a portion of a palisade was examined. Early on in excavations, it was determined that the feature was actually a midden filled ravine, part of the natural ridge and swale topography of the site that was more prominent prior to decades of plowing. A variety of artifacts were recovered from the feature including faunal bone, glass beads, metal beads, ceramic sherds and lithic tools and debitage.

Building on the groundwork laid by the previous rock art grants, the Arkansas Archeological Survey was again awarded a grant from the National Endowment for the Humanities in 2009 to examine the “art, ritual and social interaction” in the Central Arkansas River Valley. The project was a cooperative one with the Caddo, Osage and Quapaw Nations of Oklahoma and was directed by Dr. George Sabo III and Dr. Jami Lockhart of the Survey and Dr. Andrea Hunter of the Osage Nation. The results of this very large project will be detailed in subsequent publications. Only the briefest outline of excavations necessary for establishing a context for the decorated sherds excavated, a focus of this analysis, is given here.

The timing of this project coincided with the 2009 Society dig and the tree-planting project previously discussed. It was subsequently determined to focus the excavation aspect of this three-year project on the Carden Bottoms site alone. In preparation for the tree planting at the 3YE0025 portion of the Carden Bottoms site, gradiometry was conducted across the entire area under consideration for planting. Anomalies were identified and low impact zones were selected for tree planting in areas deemed unlikely to have archaeological features based on the

geophysical results. Subsequent geophysical work was conducted with electrical resistance, magnetic susceptibility, electromagnetic conductivity and more detailed gradiometry. The combined results of these technologies were used to select pit features and structures for excavation from the more than thirty anomalies that potentially represent structures at the site.

Excavations were conducted at the site between December 2010 and October 2012. One hundred and two test units were opened. Tractors with attached box blades were used to carefully strip the areas over the houses to the base of the plow zone. Hand excavation was conducted from there. Three houses were fully excavated, along with the trash pits and midden filled ravines associated with one of them (House 1). An additional pit complex (likely associated with an as yet unexcavated house) was also excavated. Radiocarbon and AMS dates obtained from charred material within the houses and pits, places occupation at the site in the mid-seventeenth century (Appendix A).

Houses at Carden Bottoms. The houses were large, square structures with four central roof support posts and smaller posts forming exterior walls roughly 8 meters on each side. The three houses excavated to date have walls aligned on a north south axis. The floor and any above floor contexts appear to have been washed away within House 1. Stains from posts, the base of the hearth and some interior hints of floor midden divots are all that remain. There is indication of significant action by water on the exposed surface within this house, suggesting the floor was washed away by flooding in the past (Figure 16). Virtually no artifacts were found within House 1. Houses 2 and 3 appeared as square stains below plow zone and indication of at least partial burning was observed as excavations progressed (Figures 17 and 18). Overall the houses appear to have been kept very clean from accumulated debris, or were perhaps cleaned out prior to abandonment.



Figure 16. Test unit showing staining from posts forming the northwest corner of House 1. Evidence of sediment disturbance and deposition from water visible at these level strata, not observed elsewhere on the site.



Figure 17. House 3 staining at base of plow zone.



Figure 18. House 3, approximate floor level, showing hearth, central posts and walls.

Hearths were located in the center of the four interior posts in all three houses (Figure 18). Preliminary analysis suggests, “these houses were used for some years, perhaps long enough for a generation or two of family life. The absence of superimposition of houses and the similarity of artifact types indicates a single component occupation,” (Hilliard 2012). Furthermore, the consistency in size, construction, placement and depth of posts across all three houses, suggests a set of “rules” or conventions governing house construction much like what is seen in other categories of material production.

Ongoing analysis of the data from Houses 2 and 3 suggests that the structures may have had a loft area between the exterior walls and interior support posts. All diagnostic artifacts found within the structures, as well as any interior features were carefully mapped using a digital total station. Careful analysis of the placement of these artifacts within the vertical strata excavated inside of two of the houses reveals that in the upper portions of the strata excavated within the units inside the four central posts, there were virtually no diagnostic artifacts found between the base of the plow zone and the packed house floor. Once the central area was excavated to floor level, a number of large, diagnostic ceramics and lithic tools were recorded lying on the house floor adjacent to the posts and hearth. The absence of artifacts on prior to reaching the floor of the houses, while they are present along the walls of the house at this same level, suggests the presence of lofts or furniture around the interior perimeter of the structure. Accounts of de Soto’s conflict with the people of Tula (possibly further upriver from Carden Bottoms) include a reference to lofts inside the houses there. In fact Spanish soldiers fought and killed four Tula women in the loft on one house there (Hudson 1997). This provides at least some precedent for the presence (and relative structural stability) of lofts in houses within the Protohistoric Arkansas

River Valley. Figures 19 through 22 demonstrate the artifact distribution pattern within houses that supports this notion.

This distribution pattern is similar to one observed by David J. Hally (1983) in ceramic distribution patterns in houses at the Little Egypt site in Georgia. Hally observed a difference between refuse sherds and vessels/vessel fragments on the floor of houses. He suggested that the refuse sherds (ones that generally did not refit with any others) were fragments of vessels broken while in use in the structure. Most of the vessel was removed from the central hearth/work area and discarded in exterior trash pits. Remaining refuse sherds inside the structure were lost along walls or under furniture outside the central area. In contrast the whole vessels or vessel fragments were sometimes stored for recycling or additional use or were discarded outside the structure (Hally 1983:170-173). Hally's interpretations are drawn from a combination of archaeological and ethnographic observations. The artifact distribution pattern in the houses at Carden Bottoms, discussed above, shows a similar "clean" central hearth/work area inside of the houses, as those from the Little Egypt site.

The de Soto account from Tula also provides one other interesting clue about architecture within this region: "When the horsemen overtook them, the warriors scrambled up on the tops of their houses, where they tried to defend themselves with bow and arrow. When the Spaniards drove them from one housetop, they would run and climb up on another," (Hudson 1997: 321). This suggests that it was quick and easy for individuals to scramble quickly onto and off of the tops of houses. Evidence from the houses excavated at Carden Bottoms indicates that they may have had soil embankments or berms around the exterior walls. No indication of daub was noted in either of the houses, even with indication of at least partial burning. Wall construction would therefore have "consisted of the upright posts, wall plates and a latticework construction of

tightly spaced wood or cane,” (Hilliard 2012). The soil embankments may have extended some ways up the walls, possibly even joining thatch extending from the roof forming eaves. “We observed this construction feature both in the geophysical data as a small “halo” effect surrounding each square anomaly and also during our excavations (Figure 17). An abrupt break of dark soil at the edge of the house footprint denoting the edge of the collapsed walls could be seen against a sterile light tan silt loam, which comprised the base of the wall embankment,” (Hilliard 2012). Such embankments were not uncommon in the Southeast. In the sometimes harsh climate of the Central Arkansas River Valley (especially drastic during the peak of the Little Ice Age), they would have provided superb insulation against climate extremes, as well as helping to shed water runoff away from houses.

Refuse Pits and Ravines. Two areas of refuse pits were excavated at the site. Both consisted of naturally occurring low areas or washes on the A horizon that, in some instances, had deeper pits dug into them. Trash was deposited into these pits and low areas outside of the houses (Figure 23). Some instances of individual dumping episodes were noted with the pits, but for the most part they consisted of relatively homogenous distributions of artifacts. The pits contained a great deal of faunal remains, including bison, elk, fish, turtle, deer and other small mammals. A large number of decorated and plain ceramics were also found in them, as well as a bone pin and glass and cuprous metal beads (Figure 24). The beads and metal confirm at least indirect European contact and are believed to be from French trade. To date, no evidence of direct sixteenth century Spanish contact has been found in these excavations.

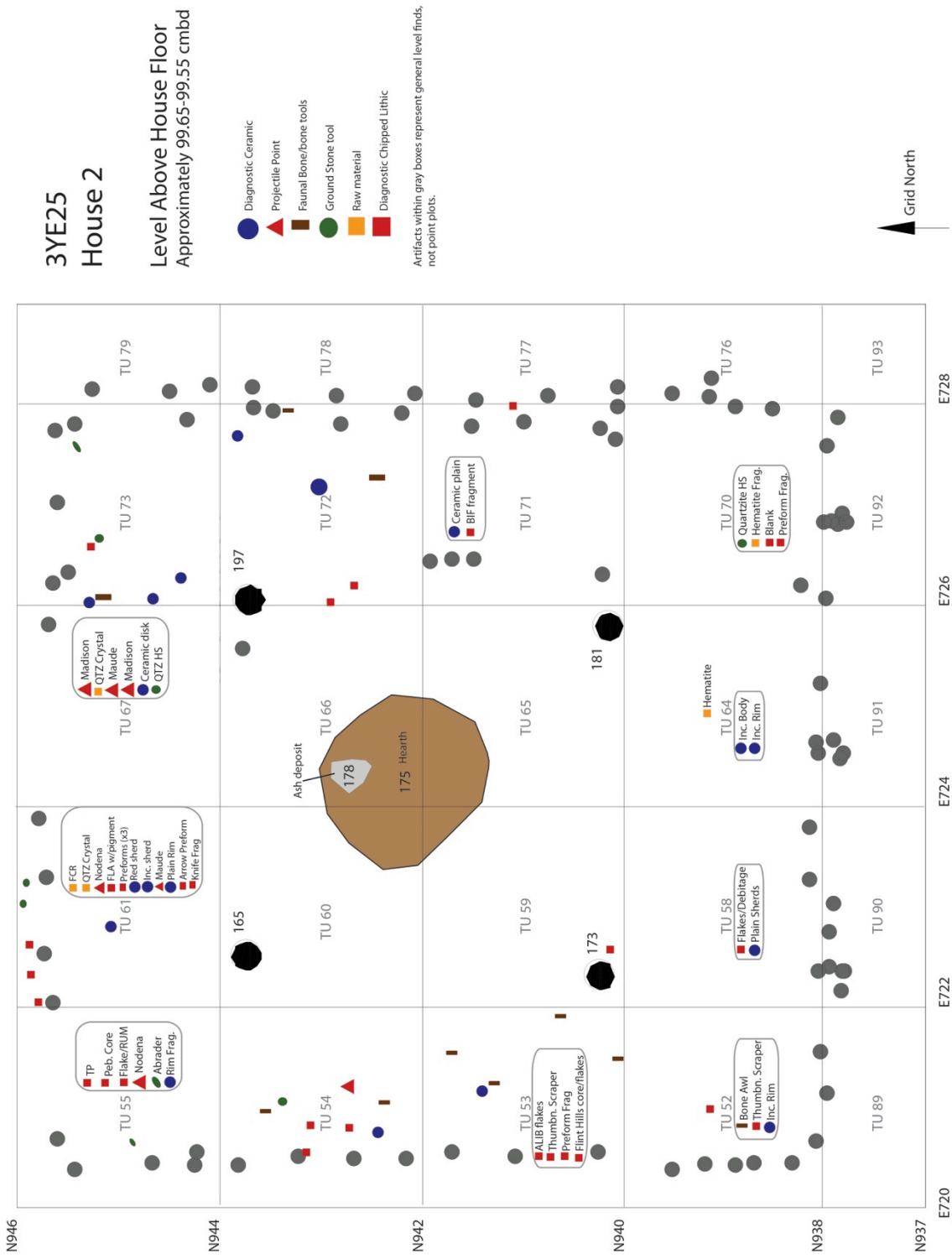


Figure 19. Distribution of artifacts within House 2, above house floor.

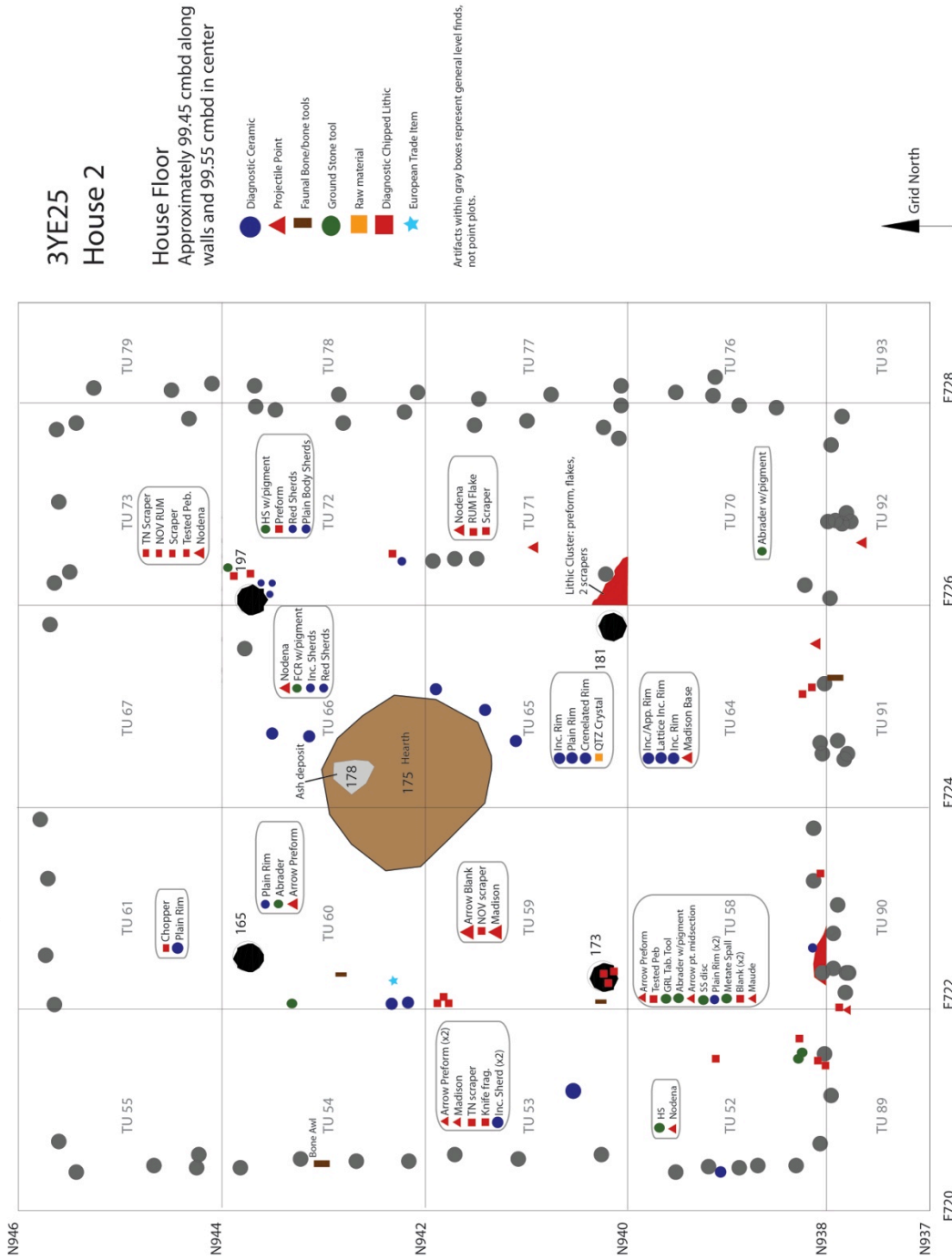


Figure 20. Distribution of artifacts within House 2, on house floor.

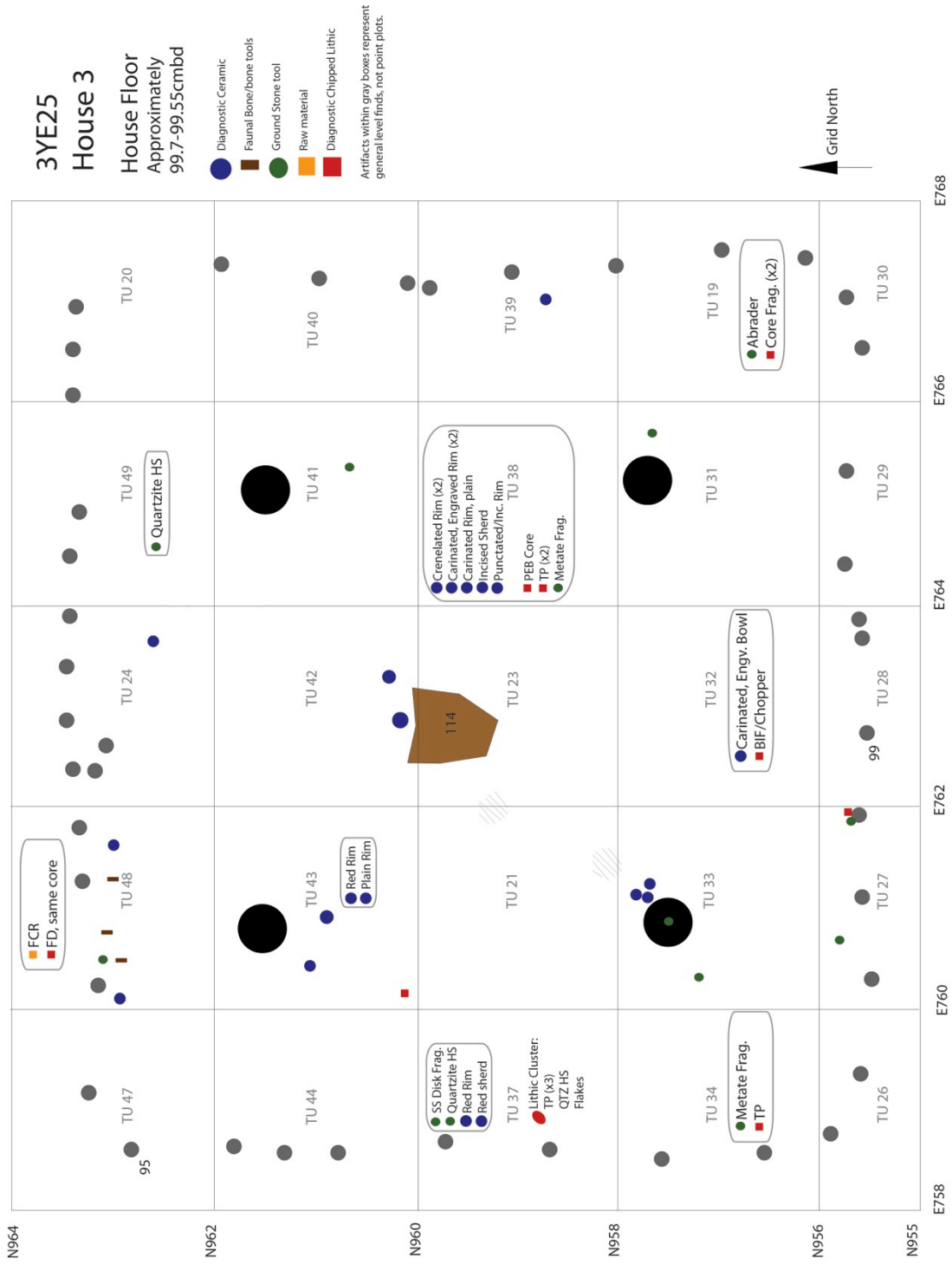


Figure 22. Distribution of artifacts in House 3, on floor.

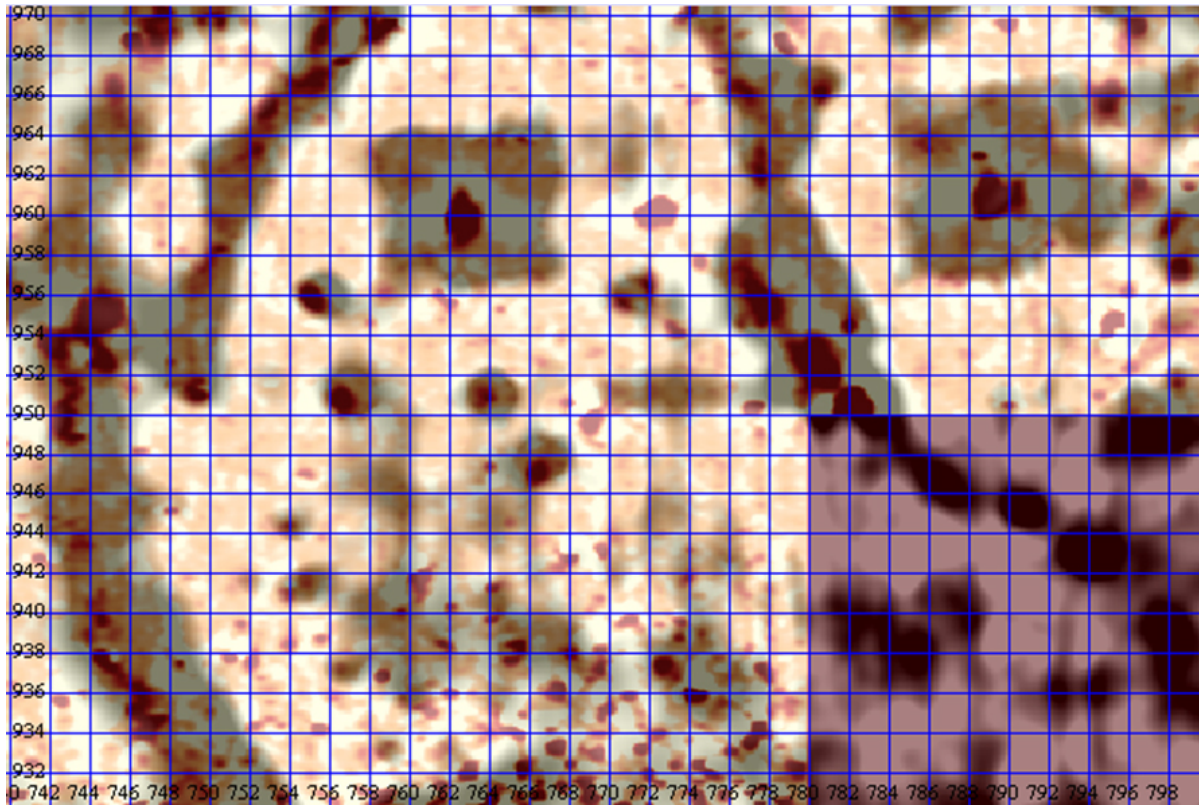


Figure 23. Geophysical results showing House 3 and surrounding midden filled ravines and pits.

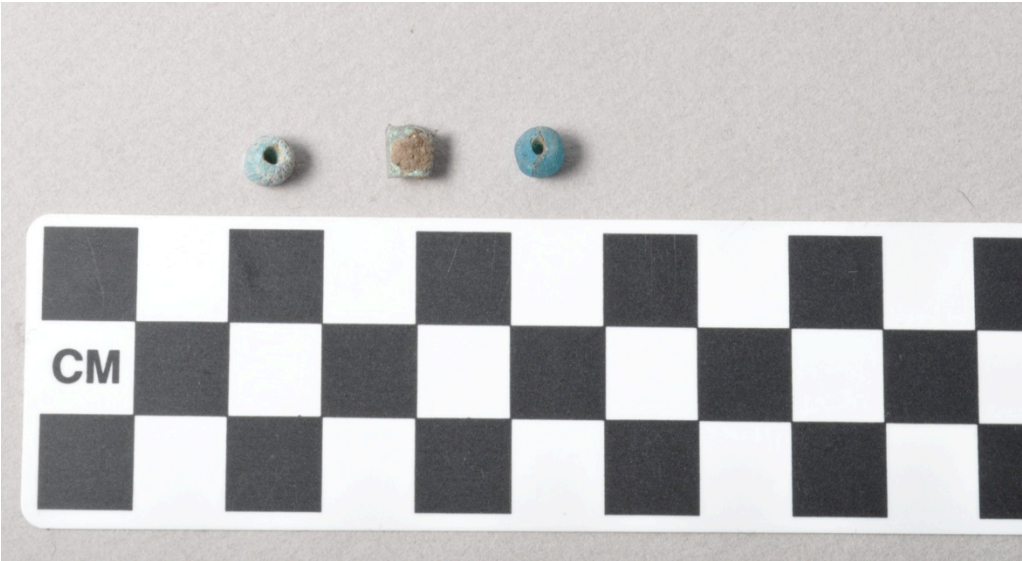


Figure 24. Beads from pits in House 1 area, Carden Bottoms.

Diagnostic Ceramics from the Archaeological Context at Carden Bottoms

A total of 11,648 ceramic sherds were recovered from houses and pits at Carden Bottoms, 13% of all artifacts recovered (Table 2). The recovered sherds were washed, dried and processed according to the DELOS artifact classification system used by the Arkansas Archeological Survey (Cande 1992). The sherds were analyzed based on categories assigned according to excavation provenience, identified with unique field specimen numbers (FSN). Within each FSN, artifacts were sorted by general categories based on function and material (LSN) and further into categories of specific materials (ASN). Each of these categories is identified with a predefined number that then becomes part of the accession number of the artifact(s). Sherds were sorted and counted within these categories, usually based on temper and decoration. They were then weighed and bagged separately according to the categories described above. Sherds that were deemed to be diagnostic in any way were set aside for a more detailed analysis. These included rims, bases, particularly large vessel fragments and any sherds with any form of decoration.

Artifact Class	Count
Ceramic Sherds	11648
Lithic	20784
Unmodified Raw Material	828
Floral & Faunal	32214
Fired or Burned Clay	21975
Other Categories	126
TOTAL	87575

Table 2. Counts by artifact class from excavations at Carden Bottoms.

An overwhelming majority of the sherds recovered have easily identifiable shell temper in the paste (95%). Often this determination was made based on the laminar voids left by leaching of the shell in the acidic soil or pit fill. Bone temper is the next most common temper

type (4%, 419 sherds) identified, which is somewhat surprising considering the lack of references to it in the literature of the region. Bone, grit, grog and combinations of all four tempering agents were also identified. Table 3 outlines the distribution of temper identifications within all sherds recovered at Carden Bottoms.

Temper	Count
Shell	11127
Shell & Bone	90
Bone & Grit	1
Bone	419
Grit	5
Grog & Grit	5
Unidentified	1
TOTAL	11648

Table 3. Temper identified in sherds recovered at Carden Bottoms.

This analysis focuses only on diagnostic ceramics. One thousand three hundred and twenty-six sherds have characteristics that warrant their inclusion in this analysis. An additional 107 fired clay objects, not part of ceramic vessels, were also included in the diagnostic analysis. Most of these items were fired clay plugs or pottery coil fragments. Two pipe bowls and one unidentified fired clay object were found. Roughly 11% of the over eleven thousand sherds recovered are considered diagnostic. Most of these (607) were recovered from the pits outside of House 1. The pits at the western end of the excavation areas, as yet unassociated with a specific house, contained 319 diagnostic sherds. House 2 contained 239 and House 3 had 161. The much higher occurrence of diagnostic sherds (and artifacts in general) in the pit/refuse areas may further support the suggestion that the houses were cleaned and abandoned.

The diagnostic sherds were subjected to a more detailed analysis that included careful examination of temper and paste inclusions using a microscope, identification of the vessel form when possible, measurement of thickness and diameter when possible and careful notation of

decorative techniques and motifs when they could be discerned. The categories of inquiry considered most important to this particular analysis are those that contribute the most to gaining an overall stylistic picture of the art and material culture of the Protohistoric Central Arkansas River Valley. The information gained from the sherds is most powerful when compared to similar categories of information documented on the whole vessels, thus providing a link to the heretofore unknown domestic context, or habitus, that the whole vessels, rock art and other objects were created in. The following categories are most useful for comparison to whole vessels: temper and other inclusions within the ceramic paste, surface treatment, thickness and diameter, decorative technique and motif. These are discussed below.

Temper. A vast majority of the 1326 diagnostic sherds have shell temper (n=1144, 86%). Bone (n=107) and bone and shell (n=49) tempering are slightly more represented, proportionally, but not in numbers enough to be statistically significant. A very small portion of the diagnostic sherds either had no temper included or it was unidentified (n = 26). Mica (possibly in the form of sericite) (Figure 25), hematite (Figure 26), quartzite (Figure 27) and quartz crystals (Figure 28) were also frequently noted in the ceramic paste of the diagnostic sherds. Inorganic black particles (Figure 29) were also observed with frequency. These are likely shale fragments, but may also be magnetite in some instances. The quartzite and quartz crystals were often noted within the red paint on the surface of sherds. These observations were made when the sherds were viewed using a microscope (30x). Members of the project team (Jerry Hilliard, Jared Pebworth and myself) assisted University of Arkansas graduate student with a comparison of these inclusions noted in the sherds to samples of clay taken at and near Carden Bottoms. Seven samples were taken, formed into sets of discs and allowed to dry (Figure 30). Once nearly dry, one disc in each set was burnished. These discs were then examined under the same microscope

as the sherds. The presence of the same mineral inclusions was noted in the local clay samples (Hunt 2013). One area of very vibrant red clay was noted on the Petit Jean River, near the Pontoon crossing (just south of the Carden Bottoms site at the base of Petit Jean Mountain. Quartzite and quartz crystals were observed in this sample. Mica was observed in all of the samples and shale fragments were present in a sample of light gray or white vein of clay that was visible within the shale in a cut bank further up the Petit Jean River (Figure 31). This clay is light enough in color and of good enough quality that it could have been used as a pigment as well as a manufacturing compound. When burnished and viewed under a microscope, the black inclusions in this sample appear very similar to those observed in the sherds from Carden Bottoms (Figure 32). This comparison of sherds to local clay samples suggests that the inhabitants of Carden Bottoms *may* have utilized local sources for raw material in pottery construction. It does not mean that they always did. The results of the comparison are worth further inquiry in the future, and current research utilizing INAA analysis by Rebecca Weiwel may prove much more conclusive (Weiwel 2014).

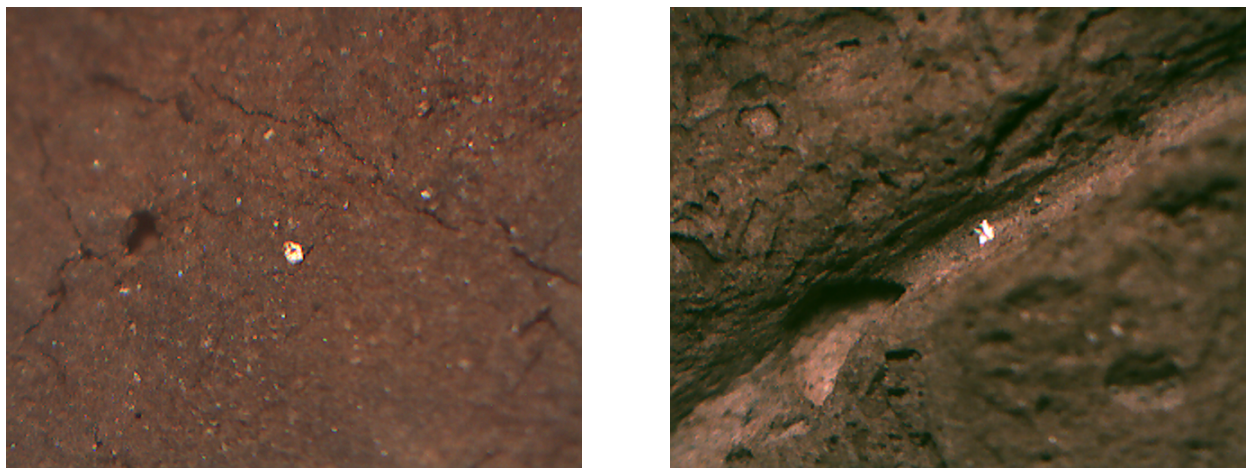


Figure 25. Mica in the paste of sherds (2011-400-56-1-1 & 2011-400-2-1-2).

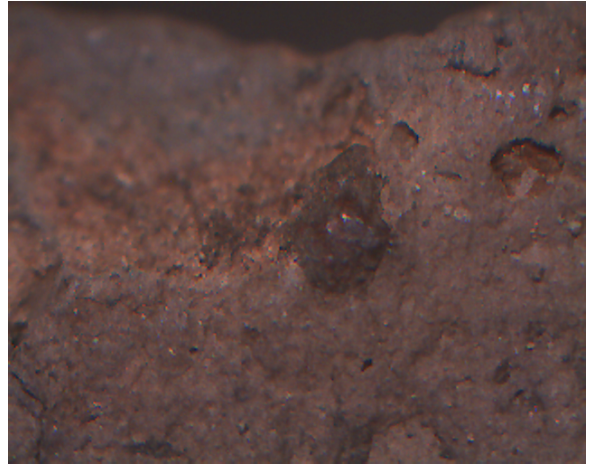
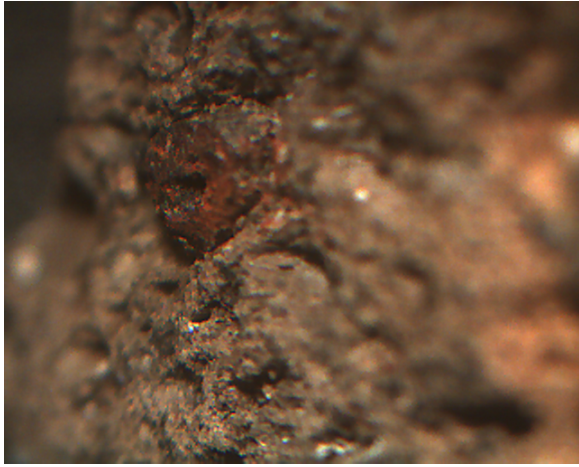


Figure 26. Hematite in the paste of sherds (2010-380-117-1-16 & 2011-400-173-1-2).

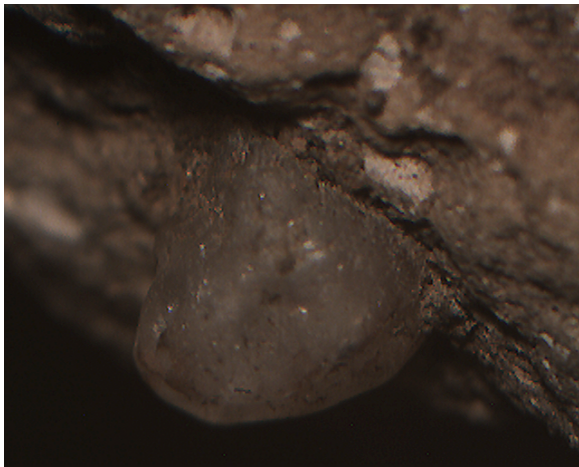


Figure 27. Quartzite in the paste of sherds (2010-380-122-1-3 & 2011-400-242-1-1).

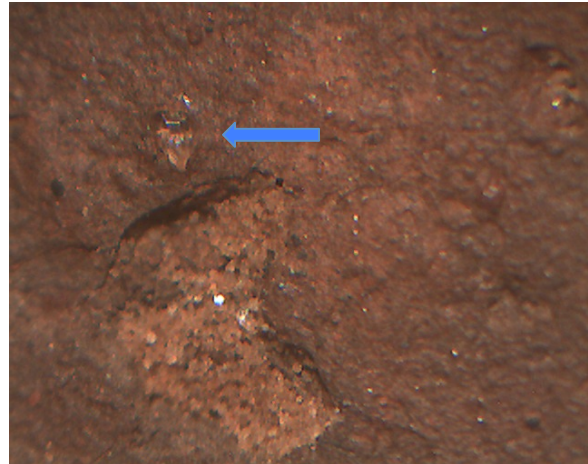
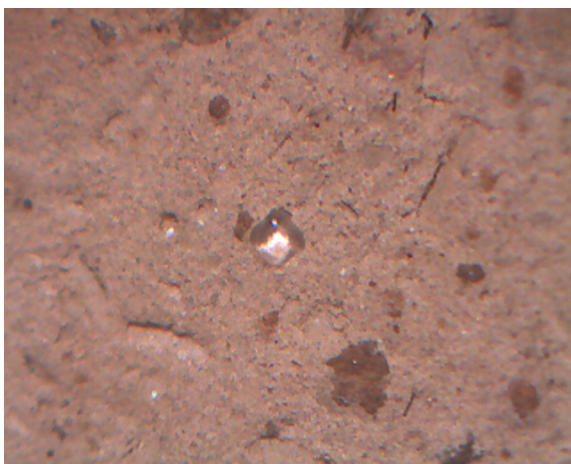


Figure 28. Quartz crystals in the paste of sherds (2011-400-170-1-1 & 2011-400-77-1-2).
Arrow points to faceted crystal.

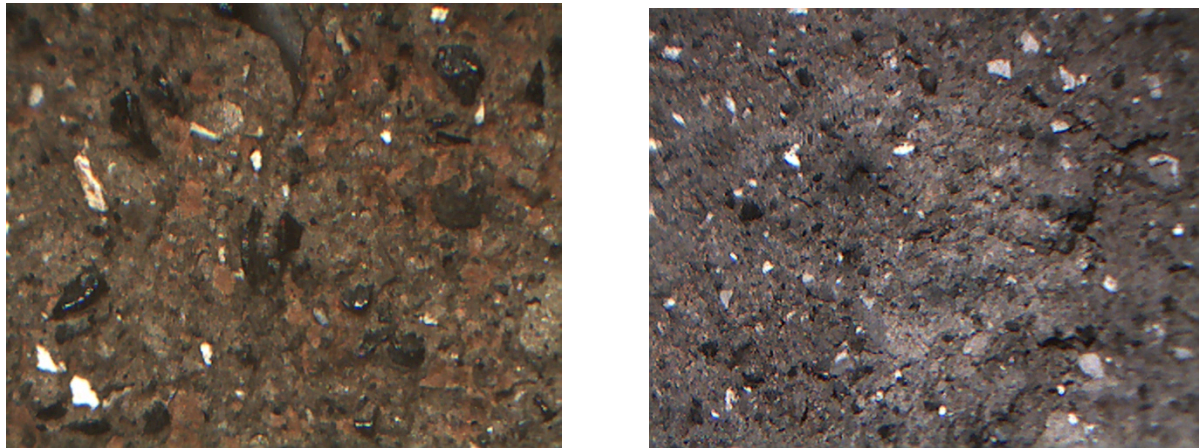


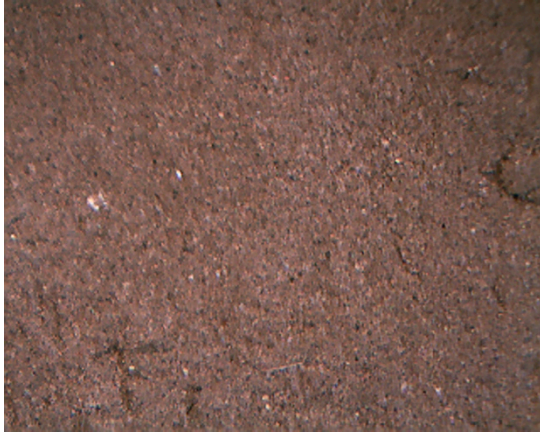
Figure 29. Unidentified, inorganic black inclusions in paste of sherds (2012-364-19-1-15 & 20102-364-54-1-10).



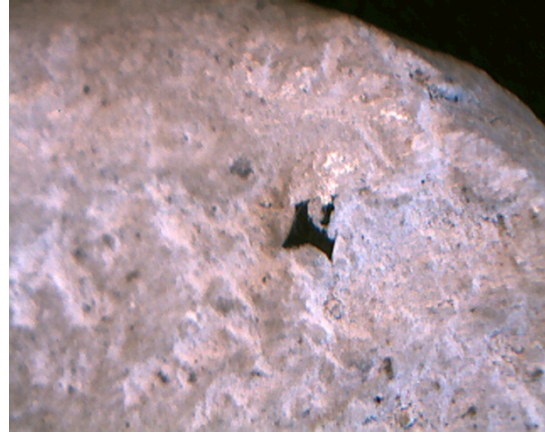
Figure 30. Discs made of clay samples taken from Carden Bottoms vicinity, 2014.



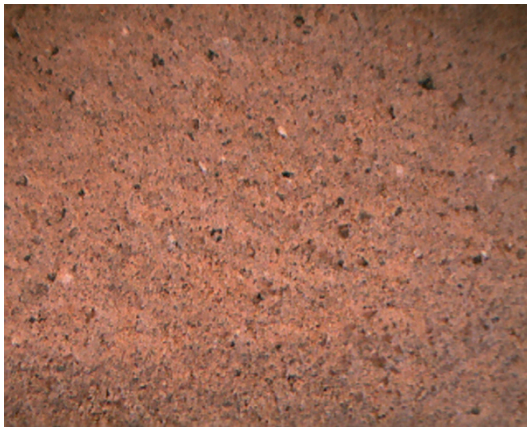
Figure 31. Vein of white clay within shale, Petit Jean River, Yell County, Arkansas.



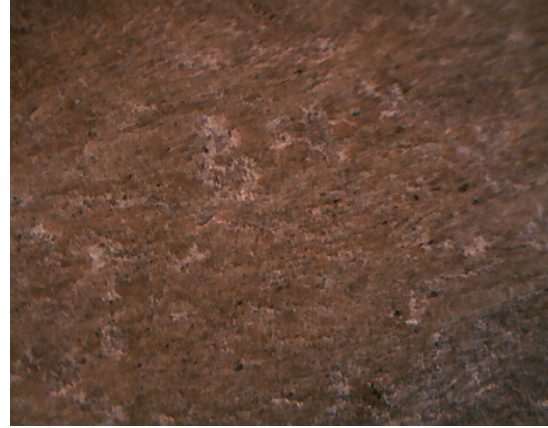
Sample: SH6, mica in clay



Sample: SH3, shale fragments in clay



Sample: SH5, black inclusions in clay



Sample: SH4, burnished clay sample



Sample: SH1, clay sample, near
Petit Jean River



Sample: SH2, clay sample taken
from sediments on bank of Petit
Jean River

Figure 32. Samples of clay from Carden Bottoms area at 10x magnification.

Surface Treatment. Surface treatments are analyzed independently of other decorative techniques, paste, etc., as they represent a separate choice made by the individual potter. When constructing a vessel, the surface usually is smoothed, burnished or polished prior to decorative techniques such as engraving, incising or painting. The most common surface treatments observed in archaeological ceramics in the Mississippi Valley, the Arkansas Valley and the Caddoan region are smoothing, burnishing and polishing. Smoothing is done while the paste of the vessel is still wet. Subsequent decorative techniques such as incising, punctating, pinching, trailing, notching or applique are usually applied at this point. Burnishing is done when the paste of a vessel has been allowed to dry to a “leather hard” state. A smooth stone or other tool is worked over the surface creating a slight sheen, usually with parallel tracks or tool marks that are visible when closely examined. Polishing is observed far less frequently in ceramics from archaeological contexts. After smoothing and burnishing a surface, small tools, hides, cloth, etc. may be used to remove any tool marks and polish the surface of a vessel to a high shine. The choices of decorative technique used to form elements and motifs on a vessel are limited by the constraints imposed with the choice of a surface treatment. Engraving, etching, painting, and sometimes trailing can be done after burnishing or polishing, within the harder, drier paste. Other decorative techniques require more moisture, and thus are usually done prior to any burnishing or smoothing. There are exceptions to these “rules,” but ceramic production, at least archaeologically, seems to be governed norms that define regional and temporal traditions. Smoothing, burnishing and polishing are all evident within the ceramic sherd assemblage from Carden Bottoms. Smoothing is by far the most common treatment applied. It is worth noting that, for a sherd assemblage, especially ones excavated from a refuse pit context, there is a high prevalence of polish visible on the sherds. Most of those that did have polish still visible were

from the pits outside of House 1. This, combined with the relatively fresh breaks on the sherds from this feature, as well as indications of little to no use on many of them, suggests the possibility that many of the vessel remains deposited here were done so at the beginning of or very early in the use life of the vessel. Since vessels often break during manufacture and firing, it is possible that many of the ones deposited herein were broken during or shortly after completion. Table 4 shows the occurrences of surface treatments observed on sherds from Carden Bottoms.

Surface Treatment	Body	Rim	Lip
Smoothed	271	232	157
Burnished	40	34	
Polished	91	63	1

Table 4. Surface treatment on diagnostic sherds from Carden Bottoms.

Thickness and Diameter. These metric categories alone do not have significant interpretive power, but when placed in context with the diameters recorded on the whole vessels, they have the power to inform conclusions about overall processes of ceramic production at the site. The average of rim sherds was 0.49 cm and the average body thickness was 0.59. Diameter was only measured on 82 vessel fragments. The remainder of the sherds were too small to estimate an overall vessel diameter. Diameter was measured using curvature (usually on rim/lip sherds, but two bottle necks are included in the count) of the orifice represented by the sherds, and was placed into a 5 cm range, from 0-45 cm. The smallest diameter measured was 3.5 cm and the largest was 45 cm. Most vessel fragments measured had a diameter that ranged between twenty and thirty centimeters, and the average was 24.7 cm. Figure 33 shows the distribution of diameter estimates across ranges in 5 cm increments.

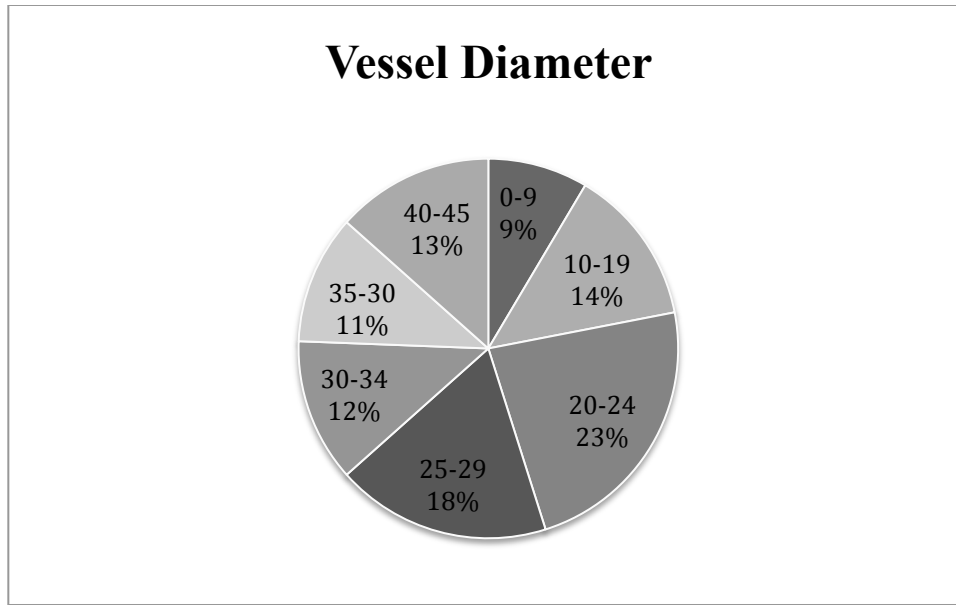


Figure 33. Vessel diameter estimates from diagnostic sherds, Carden Bottoms.

Decorative Technique. A variety of decorative techniques were used to form the decorations on the sherds from Carden Bottoms. Decorative technique is used in this analysis refer to the actual technique employed in the formation of decorative elements, motifs and overall vessel designs. On most sherds, because of their limited size, only the technique of decoration is observable. Incising is the most common decorative technique found on the sherds, and it appears to have been most often placed on the rims of the vessels represented by the sherd assemblage. Painting is the next most common technique utilized, and it seems to have been more commonly applied to all areas of a vessel. Trailing, or wide shallow incising into a slightly damp, hard paste, is found on a number of body sherds. A number of other techniques were used to apply decoration to vessels at Carden Bottoms, but these three are the most common. This category informs archaeologists about the choices that potters made about applying decoration to their whole pots, and allows them to infer and interpret about the larger artistic paradigm that guided them. It is also a particularly useful category for comparing the sherds to the whole vessels and further providing a context for the looted pots. Table 5 shows the decorative

techniques recorded on the sherds and Figure 34 highlights the relative occurrence of the most commonly observed techniques.

Decorative Technique	Body	Rim	Lip	Total
Applied	1	1		2
Brushed-Incised	21			21
Crenelated			85	85
Engraved	13	40		53
Engraved & Applied	1			1
Incised	76	252	3	331
Notched			106	106
Painted	177	105	2	284
Punctated	2	7	8	17
Incised & Punctated	4	3		7
Incised, Punctated & Applied		1		1
Trailed	51			51
Painted & Incised	2	1		3
Perforated	2			2
Modeled	1			1
Punctated & Modeled		1		1

Table 5. Decorative techniques and the type of sherd they were documented on.

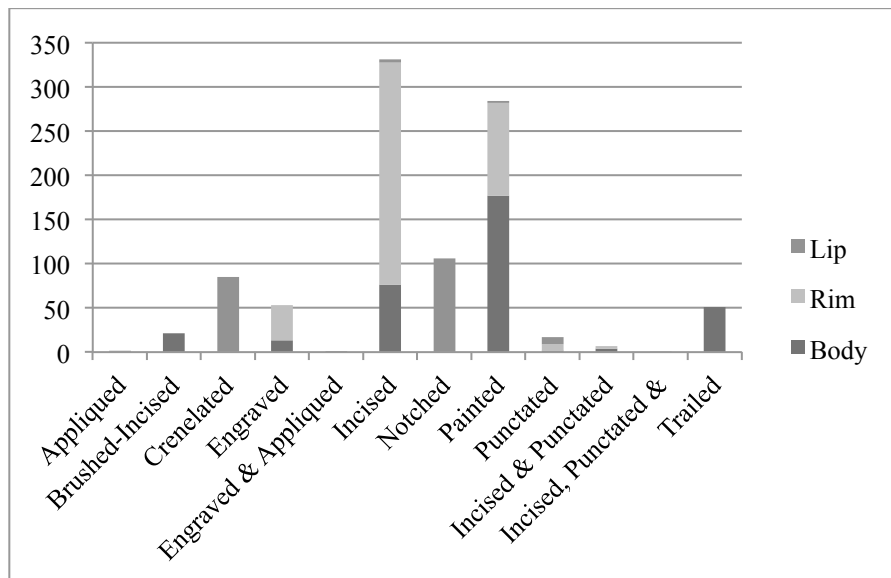


Figure 34. Occurrence of most commonly recorded decorative techniques on diagnostic sherds.

Decorative Motifs. Decorative techniques form individual decorative elements via their application. Elements are the most irreducible portion of any decorative pattern that forms a larger motif. Elements are combined and repeated in various ways to form motifs, and motifs are placed on the surface of vessels in ways that form additional motifs or icons when viewed from different perspectives. The intersections of these analytic categories of decoration are discussed further in chapter four. Individual elements, and occasionally motifs, are observed on sherds.

Table six and Figure 35 show the recorded elements on sherds at Carden Bottoms.

Element	Count
diagonal line	232
horizontal lines	55
hatched field	49
curvilinear line	42
brushed field	21
arc	17
vertical line	16
punctated line	14
hook	7
s scroll	6
punctated field	6
punctuation	2

Table 6. Elements recorded on sherds, Carden Bottoms.

Because motifs require a larger surface area to discern and sherds are only fragments of the whole vessel, only a few of the more simple motifs are recorded on sherds. The most common motif on the sherds is line filled triangles, formed from diagonal line elements (the most common element observed). The second most commonly occurring motif is the triangle. Both of these are almost exclusively found on the rims of jars and bowls. Other motifs were visible within the assemblage, but not in significant numbers. Table 7 and Figure 36 show the motifs on sherds from Carden Bottoms. The motifs that are observable on sherds are usually those that are repetitive, relatively simple designs that often encircle the vessel. Bands of nested and line filled

triangles are often observed on the rims of bowls and jars in collections from the Central Arkansas River Valley. The sherds in this assemblage support the proposed origin of such vessels. Additional comparisons between the elements and motifs on these sherds and the whole vessels described in chapter four demonstrate how excavated materials like these can provide context for seemingly disconnected objects.

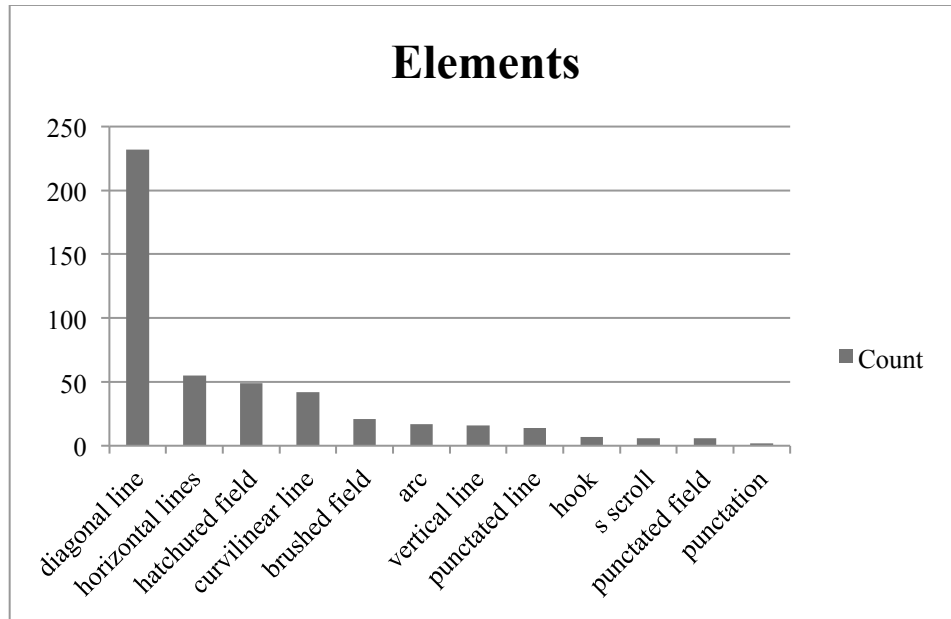


Figure 35. Elements recorded on sherds, Carden Bottoms.

Motif	Count
line filled triangle	96
triangle	67
square	26
nested chevron	24
nested arc	17
chevron	16
nested triangle	14
interlocking scroll	10
interlocking hooks	7
lattice	5
hourglass	4

Table 7. Motifs observed on sherds from Carden Bottoms.

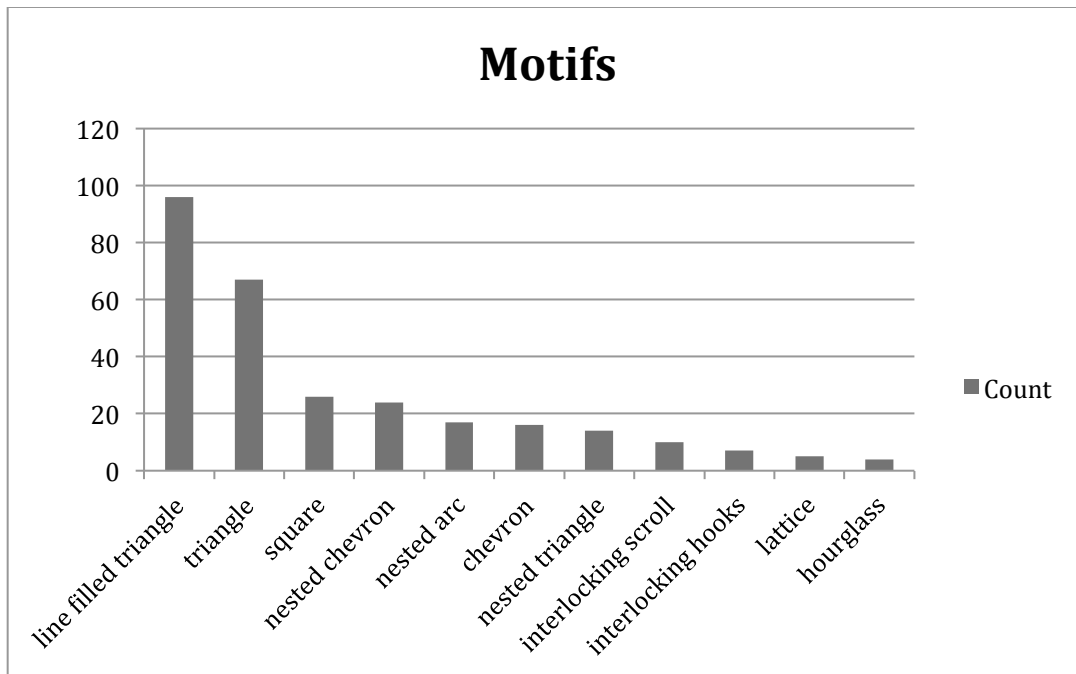


Figure 36. Motifs observed on sherds from Carden Bottoms.

Summary – From Pieces to the Whole

Regardless of the many factors that have made research in the Central Arkansas River Valley complicated, it is not the archaeological wasteland that was once feared. Despite over a century of looting, mechanized agriculture and flood control measures, there are still intact archaeological features at Carden Bottoms. As shown here, the material from these features contains a wealth of information. The material provides a picture of the everyday world in which the many pottery vessels were made, and allows us to better interpret the guiding principles and routines that formed the habitus that these artists lived in. While the value of the sherds for establishing a context for the looted vessels is clear, it is also important to note that the whole vessels (when analyzed in a consistent, systematic way) can also inform larger socio-cultural dynamics at work at this site, in this region and during this time as a whole. Very few archaeological scenarios have an assemblage of complete (or nearly) complete artworks to draw from to interpret how art and imagery intersect with changes in communities during tumultuous

times, and how people, in turn, use these images and objects to order and re-order their world.

Chapter four continues this line of investigation by comparing the whole vessels documented to the sherds presented above.

CHAPTER FOUR: WHOLE VESSEL ANALYSIS

The information presented in chapter three becomes more significant when compared to the data recorded from the 1198 whole vessels analyzed for this project. The vessels are in collections at the University of Arkansas Museum Collections Facility in Fayetteville, Arkansas, the Gilcrease Museum in Tulsa, Oklahoma and the National Museum of the American Indian collections facility in Suitland, Maryland. Project members and volunteers documented the vessels between May 2010 and August 2013. This chapter presents the information documented from them.

Vessel Provenience

Most of the vessels included in this analysis were acquired by museums after being looted from sites throughout the river valley, as described in chapter three. For most of them, site level provenience is known. Three hundred and eighty-eight vessels have county level provenience and 17 have no provenience at all. For most of the sites, very little is known. The vessels from Kinkead-Mainard and Isgrig are the only ones to have come from professional excavation. Forty percent of the vessels included in this analysis are from Carden Bottoms. The recent excavations there provide a wealth of context for the vessels, and therefore they are relied on heavily for interpretation and defining a style for the region. Information about the other sites is briefly outlined below.

Greer. Most of the whole vessels that were analyzed from the Greer Site are believed to have come from cemetery areas off of the large mound described in chapter three. Fifty vessels from Greer are included. A comparison of these vessels to the sherds excavated by Rolingson et al. shows some correlation. Plain vessels and sherds are heavily represented and the use of painting as a decorative technique is not observed frequently on either whole vessels or sherds.

However, the sample size of sherds is extremely small, so detailed comparison and correlation is not possible.

Isgrig. The Isgrig site (3PU0015) is located on the south side of the Arkansas River on an alluvial terrace between the Fourche Bayou and the Arkansas River (in an area referred to as Fourche Island). It was first recorded in 1966 by the Arkansas Archeological Survey as part of a survey prior to channelization and construction of a series of locks and dams on the Arkansas River. At that time it was believed that the primary component at the site was from the Woodland period, based on clay-tempered sherds collected on the surface. In 1983 John Miller documented late prehistoric graves being exposed by plowing, as well as an earlier Woodland component. Subsequent research over the years suggested that this site location was at one time part of the Thibault Plantation. Edward Palmer of the Smithsonian Institution's Bureau of Ethnology visited the plantation in 1883. He noted a "number of small mounds averaging only about a foot and a half in height and 18 feet in diameter," (Thomas 1985: 245). These were considered to be house mounds, with evidence of burning under a layer of soil approximately one foot thick. Human remains and pottery were found below this (Thomas 1985: 245). A number of pottery vessels had been excavated by the landowner and were loaned to the Smithsonian and later donated to the Little Rock Museum of Natural History. These vessels have recently been transferred to the possession of the Arkansas Archeological Survey.

In 2007 the site was threatened by industrial development. As a result, the Arkansas Archeological Survey, with the assistance of volunteers from the Arkansas Archeological Society, conducted salvage excavations to gather information about the series of late prehistoric, Protohistoric, and historic sites (the remains of the Thibault Plantation itself). An African American cemetery, associated with the Thibault Planation, was also documented (AAS site

form). With the exception of the cemetery, other sites in the location were likely to be destroyed by development. Dr. John House and Jessica Howe of the Arkansas Archeological Survey directed salvage excavations. The Arkansas Natural and Cultural Resource Council (ANCRC) provided funds to process and analyze the results of these excavations. Geophysical remote sensing was conducted at the location, and the anomalies discovered helped testing and excavation. Eleven burials were excavated at the Isgrig site and an additional nine at the portion of the locality designated as the Welspun site. These excavations were removed after consultation with the landowners and the Quapaw Tribe of Oklahoma. The vessels included in this analysis were excavated with these burials (Table 8). A series of five Accelerator Mass Spectroscopy (AMS) dates were obtained from charred remains on three pottery vessels (each in distinct graves) and two additional features at the site. The samples calibrate to two date ranges, the mid fifteenth century and the late sixteenth and early seventeenth century. “The multiple calendar date ranges reflect the assays falling near a big ‘wiggle’ in the calibration curve that falls in the late 1500s,” (House 2013b). Based on these dates and the contrast with the ceramics from Isgrig and those from Menard Complex sites on the lower Arkansas River, House places occupation at the Isgrig site in the mid-1400s. Rather than exclude these vessels based on their presumed earlier date, I’ve included them in the assemblage analyzed here. Archaeologically, we still know relatively little about the Menard Complex and its contemporaries in the middle and upper reaches of the Arkansas River. By placing these vessels into comparison in such a large overall assemblage it may become clearer that they represent a different cultural or artistic manifestation in the Central Arkansas River Valley.

Vessel	Type/Variety	Feature		Burial
2008-333-278	Wallace Incised bowl			No
2008-333-794	Mississippi Plain jar	52	A	Yes
2008-333-795	incised bowl	52	B	Yes
2008-333-796	Mississippi Plain jar	52	C	Yes
2009-347-132	Mississippi Plain bowl	18	B	Yes
2009-347-133	Keno Trailed bottle	18	A	Yes
2009-347-30	Keno Trailed bottle	6		Yes
2009-347-32	plain bottle fragment	7	A	Yes
2009-347-33	Mississippi Plain bowl	7	B	Yes
2009-347-42	plain carinated bowl	7	C	Yes
2009-347-51	Mississippi Plain bowl	9	A	Yes
2009-347-52	incised effigy bowl	9	B	Yes
2009-347-64	Carson Red on Buff compound bottle	9	C	Yes
2009-347-73	Keno Trailed bottle	8		Yes
2009-347-94	Mississippi Plain bowl	10		Yes
2009-351-124	Mississippi Plain bottle	65	A	Yes
2009-351-125	Mississippi Plain jar	65	B	Yes
2009-351-126	Mound Tract Incised jar	65	C	Yes
2009-351-143	Mississippi Plain jar	77		Yes
2009-351-152	carinated, engraved bowl	64		Yes
2009-351-166	Barton Incised jar	62		Yes
2009-351-185	Woodward Plain bowl			No
2009-351-203	Mississippi Plain bowl	87		Yes
2009-351-246	trailed jar fragment			No
2009-351-266	incised effigy bowl	82	A	Yes
2009-351-267	Mississippi Plain bowl	82	B	Yes
2009-351-268	incised bowl	82	C	Yes
2009-351-269	Mississippi Plain bowl	82	D	Yes
2009-351-270	Mississippi Plain bottle	82	E	Yes

Table 8. Vessel types and features, Isgrig (3PU0015).

Blanche Martin. The Blanche Martin site was also initially recorded in 1966 as part of a survey for Arkansas River navigation projects. It is located on the north side of the Arkansas River, across from Fourche Island, the Goldsmith Oliver site (3PU0055), the Thibault Place (3PU0001) and the Isgrig site (3PU0015). It is well documented, based on surface collection, limited test excavations, and information provided by local collectors as a Protohistoric or

Quapaw Phase site (AAS site form). Thirty-one vessels from the Blanche Martin site are in the Lemley Collection at the Gilcrease, and were documented for this analysis.

Mack Place. The exact location of this site is unrecorded. It is on the south side of the Arkansas River near Goldsmith Oliver (3PU0055) and the Isgrig site (3PU0015). Thirty-five vessels from this site are in the Lemley Collection at the Gilcrease Museum. They are included here.

Kinthead-Mainard. The location and excavation of this site (3PU0002) were detailed in the previous chapter. One hundred and two vessels from Kinthead-Mainard were included in this analysis. Fragmentary vessels were not included. Kinthead-Mainard was the first professionally documented instance of seemingly dissimilar types of pottery (“Caddo” and “Quapaw”) occurring in one grave. It further fueled speculation about the factors that led to this phenomenon on the Arkansas River. The pottery from Kinthead-Mainard provides context information for the situation in which most of the whole vessels in the larger assemblage were used: burial.

Owen Place. The Owen Place site (3PE0002) is located between Smiley Bayou and the Arkansas River on the south side of the river in Perry County. The site was extensively pot hunted during the 1920s and 1930s. Local informants claim there was once a mound at the site, but that it has been gone since at least the 1950s (AAS site form). Eleven vessels from Owen Place were documented for this project. Interestingly, all of those eleven are either plain (3) or painted (8).

Carden Bottoms. The Carden Bottoms locality contains a number of sites. The majority of the late prehistoric and Protohistoric occupation appears to have been concentrated at the locations recorded as 3YE0025 and 3YE0347, with likely habitation or occupation sites scattered

throughout the bottoms. These two are actually one large site that extends along an old terrace of the Arkansas River. The site lies adjacent to a former channel of the Arkansas in the large alluvial plain between the Petit Jean and Arkansas Rivers. The recent excavations were detailed in the previous chapter. Four hundred and seventy-six vessels included in this analysis are reported to have come from Carden Bottoms. This is the majority of vessels documented. The site has a great deal of notoriety, even today, because of the amount of material that was purportedly looted from there.

Field's Chapel. The location of the Field's Chapel site (3YE1075) was unrecorded for a number of years. Its exact location is still uncertain, but is known within a 40-acre area. A location called Field's Chapel is shown on a point bar on the south side of the Arkansas River between the Carden Bottoms area and Dardanelle on a 1915 soil map. The approximate location of the archaeological site is recorded based on this (AAS site form). Forty-five vessels from Field's Chapel were documented for this project. All but two of these are housed at the UA Museum Collections Facility. The other two are at the Gilcrease Museum.

Point Remove. This site (3CN0004) was also described at length in the previous chapter. Ten vessels from Point Remove are included. They are housed at the UA facility.

Jeff Davis Place. Twenty-four vessels from the Jeff Davis Place (3YE0024) were documented at the Gilcrease Museum for this project. There is little information available about the Jeff Davis Place (sometimes called the Jeff/Jefferson Davis Plantation), but it has been visited several times by professional archeologists and recorded. It has also gained a good deal of notoriety among collectors due to its mention in early publications dealing with the prehistory of the area (Moorehead 1931). The site is located in a bend of Big Piney Creek, near the Petit Jean River in northwest Yell County. Archaeological deposits recorded range from the Dalton period

through the late prehistoric period and collecting at the site has been heavy for decades (AAS site form), making the Jeff Davis Place typical of Arkansas River Valley sites.

Delaware Creek. This site (3YE0004 and 3YE0006) was located at the mouth of Delaware Creek, where it emptied into the Arkansas River. It is now inundated by Lake Dardanelle. Originally recorded as two sites, it was actually one site that extended to both sides of the creek. This site was also popular with local collectors. G.E. Pilquist wrote to Dellinger: “This is to let you know I dug some of the finest pottery yesterday in (sic) three leg bottles ever found in Arkansas. This is a new burial ground located on Delaware Creek near Logan Co. line. I was lucky to dig out 8 pieces of pottery myself yesterday with one copper piece and celts,” (Pilquist 1930). He dug a number of graves at the site, some of which contained multiple individuals, estimating the site to be one of the most prolific ones that he’d encountered in the area, as far as yielding artifacts worthy of sale. He also noted that another local collector found an iron arrowhead at the location (Pilquist 1930). The site had been visited and revisited by professional archaeologists for many years. When portions of it were above water level, some features could still be seen eroding from the site (AAS site form). Eight vessels from Delaware Creek are included in this analysis.

Sugar Creek Grove and Shoal Creek. Sugar Creek Grove (3LO0017), also known as Sugar Grove, is another example of an Arkansas River Valley site with a long history of pot hunting. It is located on an alluvial terrace of Sugar Creek, approximately one and one half miles from its confluence with the Petit Jean River. The Arkansas Archeological Survey site form mentions evidence of collecting or looting, but to date only the most minimal professional fieldwork has been conducted here. Some surface collecting and shovel testing has been conducted over the years, but very little is known about Sugar Creek Grove or how the vessels

from this site were acquired. Only three vessels from 3LO0017 are in the UA collection. No context or provenience, other than general site information, is known. Eleven vessels from a site referred to as “Shoal Creek” are also included in this analysis. The site is somewhere in Logan County, somewhere along Shoal Creek. Pinpointing its location has been unsuccessful to date, and may never be possible.

Big Jim Creek Bottom. The location of this site is completely unknown. The little information that is known places it in Sebastian County. Four vessels from this site are in the Gilcrease Museum in Tulsa, Oklahoma.

Unknown Provenience. An additional 359 vessels are included in this analysis with no know site level provenience. All but 17 of these have county level provenience. Table 9 provides the distribution of vessels by site.

Vessel Documentation Methodology

The vessels in this analysis were documented by project staff, members of the Osage and Caddo Nations of Oklahoma and a number of volunteers over the course of four years. A ceramic vessel documentation (Appendix B) form was designed to capture a wide variety of categories of information from whole vessels and a glossary and guide (Appendix B) for filling out these forms was subsequently constructed. The final version of the glossary specifies standardized terms for categories to be recorded. Early in the documentation process, terminology used to describe vessels was less standard. Information from all forms was subsequently standardized when it was entered into a database.

Information about site, county and other provenience, authenticity, identified type and variety, condition, color and standard measurements were recorded. Color was recorded using standard terminology from a Munsell soil color identification book. All measurements were

Site	Count	Percentage
Carden Bottoms (3YE0025)	476	39.73%
Kinthead-Mainard (3PU0002)	102	8.51%
Greer (3JE0050)	50	4.17%
Field's Chapel (3YE1075)	45	3.76%
Mack Place - 3PUXXXX	35	2.92%
Blanche Martin (3PU0019)	31	2.59%
Isgrig (3PU0015)	29	2.42%
Jeff Davis Place (3YE0024)	24	2.00%
Owen Place (3PE0002)	11	0.92%
Shoal Creek - 3LOXXXX	11	0.92%
Point Remove Creek (3CN0004)	10	0.83%
Delaware Creek (3YE0004/6)	8	0.67%
Big Jim Creek Bottom (3SBXXXX)	4	0.33%
Sugar Creek Grove (3LO0017)	3	0.25%
Yell County - Unknown	266	22.20%
Conway County - Unknown	32	2.67%
Faulkner County - Unknown	17	1.42%
Pope County - Unknown	14	1.17%
Perry County - Unknown	8	0.67%
Logan County - Unknown	4	0.33%
Johnson County - Unknown	1	0.08%
Unknown	17	1.42%

Table 9. Vessel count by location.

recorded in centimeters using digital metric or osteological calipers. Observations about temper and paste were also recorded using magnifying eye loupes at 10x and 20x. The treatment and angle of lips and rims was noted, as was thickness and diameter. A series of metric measurements were recorded for each zone of the vessel: lip, rim, neck, body and base. Appendages and effigy features were also described. Decorative techniques for each zone were documented and any pattern or motif was described. Handles were also documented separately, and any other specific or unique features were described. Each vessel was photographed from a number of angles including medial, lateral, superior and inferior. Design analysis of decorative elements, motifs and overall design placement and structure on a vessel was conducted

separately, at a later date, by the author. The results of the design analysis are presented in chapter five, and used to define a geographic style for the Central Arkansas River Valley.

Whole Vessel Form, Composition and Metric Analysis

Form. One thousand, one hundred and ninety-eight vessels are included in this analysis. This includes 479 bowls (carinated and one quadruped form bowl), 426 bottles (including one bipod, hooded bottles, one quadruped bottle and tripod bottles) and 177 jars (including hooded jars). A few other forms are represented, and these are shown in Table 10. The only completely unique forms in the assemblage are a bipod bottle (Figure 36) and a hollow cylinder or pedestal (Figure 37). The most common vessel form is bowls, followed by bottles and jars. This parallels what was seen in the sherd assemblage from Carden Bottoms. Since so few vessel forms were defined based on sherds, this may not be a meaningful comparison.

Vessel Form	Count	Percentage
bipod	1	0.08%
bottle	402	33.56%
bowl	446	37.23%
carinated	32	2.67%
compound	23	1.92%
effigy	76	6.34%
hollow cylinder	1	0.08%
hooded bottle	3	0.25%
hooded jar	3	0.25%
jar	174	14.52%
quadruped	2	0.17%
saucer	8	0.67%
sherd	8	0.67%
tripod	19	1.59%

Table 10. Vessel forms identified.



Figure 37. Unique vessel forms: bipod bottle, Yell County, Gilcrease Museum (5425.1523) and hollow cylinder, Faulkner County, National Museum of the American Indian (140480.000).

Composition. Crushed mussel shell is the most common tempering agent found in both the whole vessels and the sherd assemblages. Most often the mussel shell appears to have been heated prior to being crushed and mixed with clay for vessel construction. The inclusion of mussel shell in ceramic paste became prominent in the Central Mississippi Valley around A.D. 800. Earlier occurrences of shell tempering have been recorded in the Ozark Highlands (Price 1986; Sabo and Hilliard 2008). Shell was frequently used as a tempering agent across much of the East by the Late Woodland period, although its adoption was not universal or at the exclusion of other tempers (Feathers 2006). Caddo potters in the Red River Valley and East Texas did not use it widely until after A.D. 1300, however (Perttula et al. 2011). By the Protohistoric period,

especially the mid-seventeenth century, shell tempering was ubiquitous in most regions of the South and East. This is congruent with the observations in the sherd and whole vessel assemblage from the Central Arkansas River Valley.

Nine hundred and eighty-five vessels have only shell tempering and another 132 have shell in combination with another temper. Sand and grog (and less frequently bone and grit) temper were common in pottery of the Plum Bayou, Fourche Maline and Baytown cultures of the Woodland period in the region. These are represented, to a minor degree, in the assemblages from the Central Arkansas River Valley, especially in combination with shell. Other inclusions, namely black, inorganic material, were also occasionally noted in the whole vessels. The black material may be the same as what was observed in the clay samples and sherds from Carden Bottoms. Detailed correlations between the temper in sherds and the temper in whole vessels are somewhat problematic. Many of the whole vessels have been painted or polished to a degree that make observing the paste difficult without breaks or abrasions on the surface. Table 11 shows the occurrences of temper and combinations of temper observed in the whole vessels. Overall, the paste consistency on the whole vessels was compact, hard and smooth.

Metric Analysis of Whole Vessels. Most metric categories of whole vessels are more meaningful when considered with the overall vessel form. More categories are also documented on whole vessels than on sherds. Bowls are the most common form in the overall assemblage from the Central Arkansas River Valley. The average maximum diameter of bowls, including carinated bowls, is 19.6 cm. Typically, the maximum diameter on bowls from this area is located at the rim or lip, or at the rim/body juncture on carinated bowls. The body shape of

Temper	Count	Percentage
Bone	1	0.09%
Bone, Grog	1	0.09%
Grit	1	0.09%
Grit, Shell	1	0.09%
Grog	28	2.43%
Grog, Bone	4	0.35%
Grog, Shell	19	1.65%
Grog, Shell, Bone	2	0.17%
Sand	1	0.09%
Shell	985	85.43%
Shell, Grit	4	0.35%
Shell, Grog	103	8.93%
Shell, Grog, Bone	1	0.09%
Shell, Grog, Grit	2	0.17%

Table 11. Temper Occurrences in Whole Vessel Assemblage.

bowls is most commonly convex (351 of 478). The overall average height of bowls in the assemblage is 9.99 cm. Bottles have an average maximum diameter of 16.8 cm and an average height of 18.3 cm. There seems to be a preference for symmetry between height and width of bottles. Body shape is most frequently globular or sub-globular. Seventy percent of bottle bodies fall into one of these shape categories. The maximum diameter on bottles of these shapes is usually measured at the mid-body. The next most commonly occurring body shape on bottles is low-waisted, with their maximum diameter at the lower body. Globular bodies are also common on jars. Body shapes are more variable on jars than on either bottles or bowls. The maximum average diameter of jars is 15.97 cm and the average height is 13.3 cm. Twenty-five vessels are “compound vessels,” meaning that multiple vessels (and sometimes forms) are joined together. These are each unique in form and shape. Comparison and averages are not significant. Effigy vessels are most commonly bowls with modeled effigies on rims or lips and tabular tails extending off of the opposing side (Figure 38). Bottles modeled in the shape of human heads or seated humans (Figures 39 and 40) are also common effigy forms. Both types of

vessels are often red painted. These categories of vessels are discussed further in the next chapter. Table 12 shows average vessel dimensions by form and occurrences of common body shapes by form.



Figure 38. Bird effigy bowl, Carden Bottoms, National Museum of the American Indian, Smithsonian Institution (126528).



Figures 39 and 40. Figure 39: red on buff head effigy, Carden Bottoms, Gilcrease Museum (5425.1293); Figure 40: kneeling human effigy, Point Remove, UA Museum Collection Facility (31-46-9).

Vessel Shape	Average Height	Average Diameter
bipod	16.5	20.20
bottle	18.26	16.85
bowl	10.35	19.74
carinated	9.63	19.48
compound	16.14	15.86
effigy	11.30	17.57
hollow cylinder	7.40	12.10
hooded bottle	13.93	18.47
hooded jar	12.13	10.67
jar	13.30	15.97
quadruped	19.00	22.40
saucer	3.83	14.97
sherd	5.70	12.60
tripod	22.10	19.37
Overall Average	12.82	16.88

Table 12. Average height and diameter by form.

Rounded lips were the most commonly documented lip shape on the whole vessels, at 64%. Flattened lips are also common, 34%. Rolled, beveled and thickened lips were documented in minor numbers. Lip angles were recorded on 297 vessels. One hundred and forty-eight lips had no angle change from the body or rim. The remainder were either everted (84) or slightly everted (65). Most often lip angle was recorded on necks or vessels with continuous profiles in which there is little or no distinction between the lip and rim or body below it. The average lip thickness was 0.47 cm. The most common decorative techniques on lips are painting (red), crenelation, notching or punctuating.

Rim shapes were recorded as concave, straight or convex. Angle was recorded independently of shape (Appendix B). Shape was recorded on 693 rims in the assemblage. Most of these (372) are straight and 290 are concave. Only 72 convex rims were recorded. A very small number of rims are compound rims, meaning they abruptly change shape or angle. The

most common rim angle is outslanting, meaning that the rim is at an outward facing angle to the curvature of the body and orifice. The average rim height is 2.00 cm and the average thickness of rims is 0.53 cm. The most common decorative technique found on rims is painting (150), but most rims are undecorated (857). Incising is also common (78), as are combinations of multiple decorative techniques. Table 13 shows the various modes recorded on rims.

Rim Decorative Technique	Count	Percentage
None	858	71.56%
Engraved	40	3.34%
Appliqued	3	0.25%
Brushed	1	0.08%
Incised	78	6.51%
Noded	2	0.17%
Notched	1	0.08%
Painted	150	12.51%
Punctated	15	1.25%
Stamped	1	0.08%
Trailed	4	0.33%
Appliqued & Incised	4	0.33%
Appliqued & Noded	1	0.08%
Appliqued & Punctated	7	0.58%
Appliqued, Incised & Punctated	3	0.25%
Engraved & Incised	3	0.25%
Engraved & Notched	1	0.08%
Engraved & Punctated	2	0.17%
Engraved & Painted	1	0.08%
Incised & Noded	1	0.08%
Incised & Painted	1	0.08%
Incised & Punctated	16	1.33%
Painted & Noded	2	0.17%
Punctated, Incised & Noded	1	0.08%
Punctated & Noded	1	0.08%
Engraved, Engraved (Compound)	1	0.08%
Painted, Painted (Compound)	1	0.08%

Table 13. Decorative modes on rims.

The most commonly recorded shape of neck is insloping. Vertical and carafe shaped (continuous profile) necks are also common on bottles. The average neck diameters recorded reflects the commonality of the insloping shape. The average diameter at the base of necks is 6.01 cm. The average mid neck diameter is 5.19 cm and the average orifice diameter is 4.05 cm. The average height of necks recorded is 4.49 cm, and the maximum height recorded is 21.5 cm. A neck that tall is an anomaly; the maximum heights recorded are generally around 12 cm. The average thickness of necks is 0.54 cm. In general, necks are undecorated or only minimally decorated. The most common decorative mode on necks is painting (135). Other decorative modes occur relatively infrequently. Table 14 outlines decorative modes recorded on necks.

Decorative Modes on Neck	Number of Occurrences	Percentage
Painted	135	75.42%
Painted, Punctated	1	0.56%
Engraved	14	7.82%
Engraved, Noded	1	0.56%
Engraved, Painted	1	0.56%
Incised	9	5.03%
Punctated	11	6.15%
Punctated, Incised	1	0.56%
Trailed	5	2.79%
Trailed, Painted	1	0.56%

Table 14. Decorative Modes on Necks.

The most commonly recorded body shapes were previously discussed while describing the vessel forms. The average height of bodies in the whole vessel assemblage is 10.71 cm and the average diameter is 17.37 cm. The average thickness on bodies, usually measured only on bowls and jars, is 0.54 cm. Body shape and size dictate, or perhaps are dictated by, the overall vessel form. The most common body shapes are globular and sub-globular. These shapes are common on bottles and jars, and are even occasionally noted in bowls. Bowls most frequently have a convex shape. The most common decorative mode on bodies is painting alone, not in

combination with another decorative technique. Engraving, incising and trailing are the next most common decorative techniques applied to vessel bodies.

Most vessels in this assemblage have no defined bases (779). When a distinctive base is present, it is most often circular (321), and most of these (238) are flat. Two square bases were documented in the assemblage. Twenty-two footed bases and 36 pedestal bases were also documented. Decoration on the base of a vessel is very uncommon. Only 52 out of the 1198 vessels have some decoration on the base. Most often this is painting (34 of the 52). This is usually red paint that extends from the body of a vessel onto the base. Some effigy bottles have appliqued elements on the base either which serve as legs, feet, or other anatomical elements. When vessel bases (or, more often, the bottom of a vessel with no defined base) are decorated with something other than painting, it is with engraving or incising, and is an integrated part of a larger motif that extends up the sides of the body (Figure 41).



Figure 41. Natchitoches Engraved bowl, Kinkead-Mainard, UA Museum Collection Facility (32-101-5b).

Vessel Surface Treatment

The surface of most vessels was smoothed. This was often done as the only treatment on the surface of vessels, or, if not, prior to applying other decorations. Interior surface treatment was usually only observed on bowls or jars. Because of construction limitations, the inside of bottles are usually not smoothed, and they cannot be burnished or polished. Carinated bowls and bottles (engraved and painted) are the most common polished vessel forms (interior and exterior).

Most Prevalent Vessel Decorative Techniques

Painting. The most common decorative technique used on bowls and bottles is painting. Bowls are often buff colored and painted on the interior, exterior and interior rim (Figure 42). A variety of motifs are painted on the interior of the bowls and these are discussed further in chapter five. Painted bottles are usually red motifs on a buff colored body, solid red or red and white painted designs. Based on the classification system usually used in the Southeast and Lower Mississippi Valley to categorize archaeological ceramics into types and varieties (Phillips, Ford and Griffin 1951; Phillips 1970), red on buff bowls and bottles in this analysis are usually categorized in the type/variety system as *Carson Red on Buff* (Phillips 1970). Vessels with a solid red exterior are classified as *Old Town Red*, and red and white vessels (usually bottles) are considered *Nodena Red and White* (Phillips 1970). Occasionally vessels were documented with black pigment still visible on the surface in combination with red and white pigment. The combination of red, white and black pigments on a vessel surface is classified as *Avenue Polychrome* (Phillips 1970). This type occurs exclusively on bottles in this assemblage. Figures 43, 44, 45 and 46 demonstrate these vessel types.

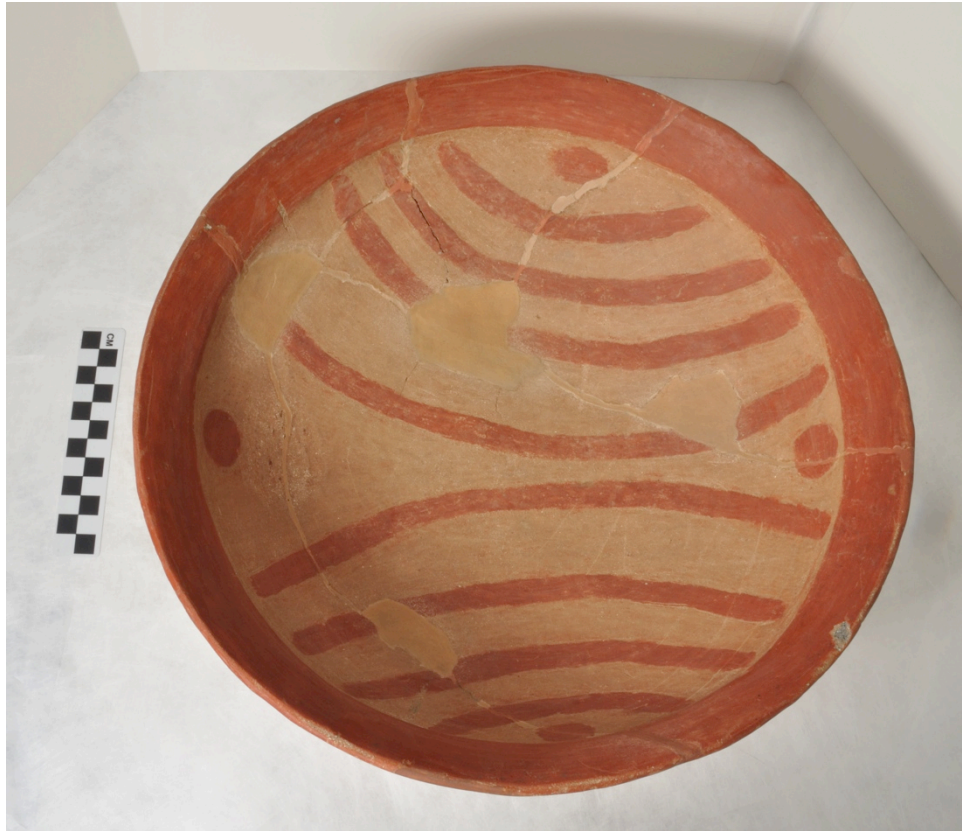


Figure 42. Carson Red on Buff bowl, Carden Bottoms, National Museum of the American Indian, Smithsonian Institution (056320.000).



Figure 43. Carson Red on Buff bottle, Carden Bottoms, Gilcrease Museum (5425.1666).



Figure 44. Old Town Red bottle, Pulaski County, Gilcrease Museum (5425.1560).



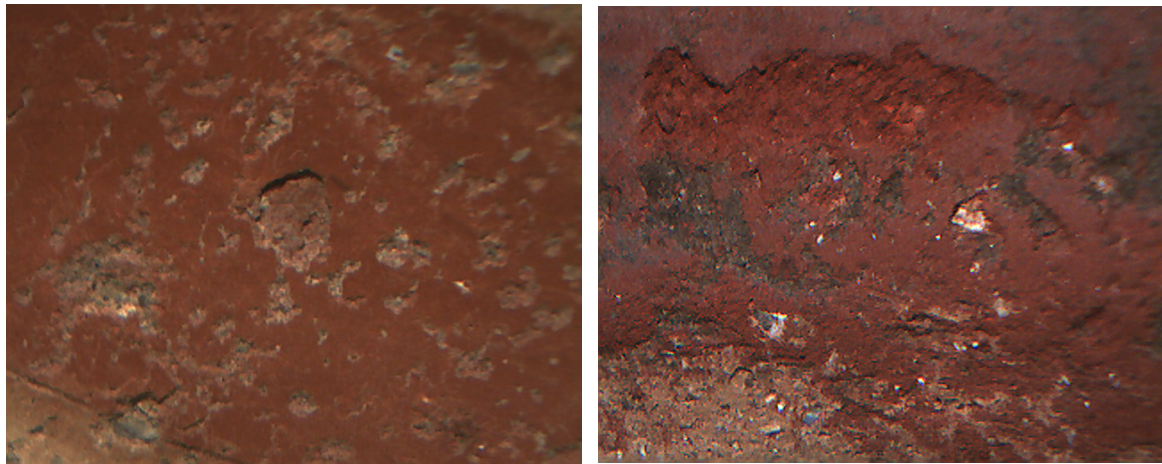
Figure 45. Nodena Red and White bottle, Carden Bottoms, Gilcrease Museum (5425.1656).



Figure 46. Avenue Polychrome bottle, Carden Bottoms, National Museum of the American Indian, Smithsonian Institution (126534.000).

The black pigment seems to be more ephemeral than the red or white, a characteristic that was noted even as these vessels were collected (Moore 1908). Chemical tests performed by C.B. Moore (1908) on the red and white pigments from the Lower Arkansas River Valley, found in graves with painted vessels revealed their composition. The red pigment is primarily iron oxide; the white kaolin. These are applied to vessels in the form of clay paint or slip (Miller 2010). John Miller's study of replicating polychrome vessels supports this, as well as identifying the black as manganese or iron-manganese pigments (Miller 2010:6). Kaolin deposits outcrop in the vicinity of the Mississippi River in northern Mississippi, and were a possible source of the white clay used in red and white painted vessels. Kaolin is found less frequently in the Central Arkansas River Valley. Interestingly, red and red on buff vessels are far more prevalent than red and white ones in the upper regions of the Arkansas River, farther away from easily accessible sources of kaolin. This is further demonstrated by an analysis of motifs on the painted bottles in chapter five.

Close examination of the vessels and sherds suggests that the paint may have been applied to vessel surfaces after they were smoothed and fired. Red pigment was observed in voids on the surface of shell tempered sherds left after the shell leached away on the surface during firing (Figure 47), and the thickness and differential preservation of shell temper fragments found underneath red pigment was similarly observed on sherds (Figure 48). Feathers (2006) also noted the increased preservation of shell temper underneath red pigment. Red pigment appears to have been polished into the surface of a red on buff bowl on which the design was outlined with incising prior to firing (Figure 49). Miller suggests an alternative scenario in which all pigments were applied to a vessel prior to firing. Firing in an oxidizing environment allows the red and white paint to retain its color (Miller 2010:3). However, this does not account for the presence of red pigment over voids. In either scenario, it is likely that the copious amounts of hematite in vicinity of Carden Bottoms and Petit Jean would have provided ideal sources of red pigment and red clay to be used as the red pigment on these vessels.



Figures 47 and 48. A painted sherd showing overlay of red pigment over surface voids left by firing process (2012-364-31-1-1) and thick red pigment with well-preserved shell underneath, 2010-380-101-1-28.



Figure 49. Red painted sherd with incised outline, Carden Bottoms (2012-364-31-1-1).

Incising and Trailing. Incising is the next most prevalent decorative technique on the rims of whole vessels in the assemblage. It is also common on necks and bodies, but not as prevalent as engraving. Incising is most commonly used as a decorative technique on the rims of bowls and jars, and is often used in combination with punctations or punctuated fields. The specific motifs are discussed in the next chapter, but two of the most common type/varieties used to categorize vessels with incised or rims are Barton Incised and Wallace Incised (Phillips 1970) (Figure 50 and 51). The type Barton Incised includes rims or necks (and sometimes upper bodies/shoulders) of jars that have linear incised motifs (often variations of nested or line filled triangles). Convex bowls with incised rims and upper bodies are often classified into the Wallace Incised type (Ford 1951; Phillips 1970). The classifications using these types and varieties do not strictly follow the type/varieties outlined by Phillips (1970), but, as the focus of this analysis is not classification of sherds and vessels along traditional lines, the types are used mainly as descriptive references.



Figure 50. *Barton Incised* jar, Carden Bottoms, UA Museum Collections Facility (27-11-101).



Figure 51. *Wallace Incised* bowl, Carden Bottoms, UA Museum Collections Facility (27-11-128).

Incising is also used somewhat frequently with brushing on whole vessels, and was also observed in sherds from Carden Bottoms (Figure 52). Mound Tract Incised (Kidder 1988), and Pease Brushed-Incised (Shum, et al. 1954) are commonly recognized types that combine these two techniques (Figures 53 and 54). Typically, this combination includes a motif or pattern that is outlined with incised lines and filled with brushing. This may be a series of horizontal or vertical fields that are divided by incised lines, or a curvilinear incised motif, filled with brushing.



Figure 52. Brushed-Incised sherds, (2012-364: 57-1-3, 111-1-4, 22-1-2, 19-1-26).



Figure 53. Mound Tract Incised bottle, Carden Bottoms, National Museum of the American Indian, Smithsonian Institution (126560.000).



Figure 54. Pease Brushed-Incised jar, Carden Bottoms, UA Museum Collection Facility (27-11-301).

Trailing is similar to incising, but consists of wider lines and is applied to vessels when the paste is relatively hard and dry (Figures 55). It appears to have been used almost exclusively on the bodies of vessels, usually bottles. The designs formed with trailing are nearly always curvilinear or circular. Keno Trailed bottles and Foster Trailed-Incised jars are common types categorized in this assemblage in both sherds and whole vessels (Figures 56-58).

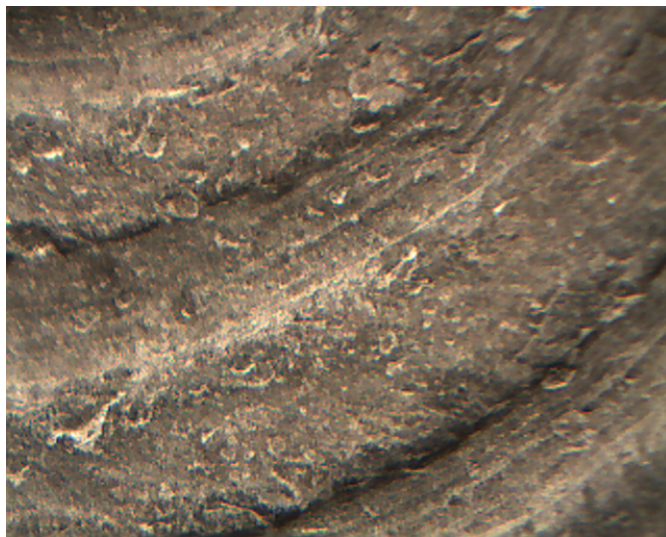


Figure 55. Trailing on sherd, 2012-364-76-1-1, Carden Bottoms.



Figure 56. Trailed sherds from Carden Bottoms, (2012-364: 42-1-1, 104-1-2 cut for INAA, 76-1-1).



Figure 57. Keno Trailed bottle, Carden Bottoms, National Museum of the American Indian, Smithsonian Institution (126545.000).



Figure 58. Foster Trailed jar, Blanche Martin site, Gilcrease Museum (5425.510).

Trailed bottles often have motifs that consist of nested arcs or stacked curvilinear patterns, while the jars usually have motifs formed of circles or concentric circles.

Punctuation. Punctations are most frequently used to form lines that encircle the vessel at the juncture of the rim and body, neck and body or around the lip. They appear to have been made with small reeds, cane fragments or sticks. Punctated fields are used as filling patterns within other motifs or designs, and often occur in conjunction with incising (Figure 59).

Punctations occur most frequently in the sherd and whole vessel assemblages on the rim of vessels, but in one instance they are observed in a field on the entirety of the body (Figure 60).

The only type/variety category based on punctuation as a decorative technique that was used for classification in this project was Parkin Punctated (Phillips, et al. 1951; Phillips 1970). Within the Central Arkansas River Valley assemblages, punctations do not appear to be primary

decorative techniques, rather they are used to form fields or dividing lines between more prominent decorative motifs and elements.



Figure 59. Sherds, showing punctated fields, Carden Bottoms (2010-380-114-1-14, 2012-364-119-1-9, 2012-364-14-1-29).



Figure 60. Parkin Punctated jar, Kinkead-Mainard, UA Museum Collections (32-101-45c).

Engraving. Engraving frequently occurs on bodies and rims of vessels. Engraved rims are frequent on carinated vessels. Sixteen bottle necks also have engraved elements or engraving in combination with other techniques. Engraving is also commonly done on vessels that are burnished or polished. Engraved vessels also have the highest variability in temper, and often have red pigment in the engraved lines. These vessels have a wide variety of motifs that are classified in a very diverse array of types and varieties. The engraved types identified within the whole vessel assemblage are listed in Table 15. They are so variable that any discussion of design patterns or motifs based solely on decorative technique alone is not meaningful. The commonalities and distinctions, as well as how engraving as a technique intersects with the application of specific motifs and design structures is examined in the next chapter using analytic techniques targeted at the element, motif and structural level.

Type and Variety	Number of Vessels	Percentage
Adair Engraved no variety	3	4.69%
Avery Engraved no variety	3	4.69%
Bailey Engraved no variety	1	1.56%
Barton Incised no variety	37	57.81%
Belcher Engraved no variety	3	4.69%
Blakely Engraved <i>var. Witherspoon</i>	2	3.13%
Blakely Engraved no variety	5	7.81%
Cook Engraved no variety	1	1.56%
Friendship Engraved no variety	7	10.94%
Friendship Engraved <i>var. Freeman</i>	2	3.13%
Glassell Engraved no variety	1	1.56%
Haley Engraved no variety	2	3.13%
Haley Engraved no variety, East Incised no variety	1	1.56%
Haley Engraved <i>var. Adams</i>	1	1.56%
Hardman Engraved no variety	1	1.56%
Hardman Engraved <i>var. Joan</i>	1	1.56%
Hatchel Engraved no variety	1	1.56%
Hempstead Engraved no variety	1	1.56%
Hempstead Engraved <i>var. Hempstead</i>	1	1.56%

Table 15. Engraved types and varieties classified in the whole vessel assemblage.

Type and Variety	Number of Vessels	Percentage
Hodges Engraved no variety	22	34.38%
Hodges Engraved <i>var. Candler</i>	1	1.56%
Hodges Engraved <i>var. Fowler</i>	2	3.13%
Hodges Engraved <i>var. Hodges</i>	2	3.13%
Hodges Engraved <i>var. Nix</i>	11	17.19%
Hudson Engraved no variety	25	39.06%
Maddox Engraved no variety	4	6.25%
Means Engraved no variety	8	12.50%
Natchitoches Engraved no variety	1	1.56%
Simms Engraved no variety	2	3.13%
Taylor Engraved no variety	11	17.19%

Table 15. Engraved types and varieties classified in the whole vessel assemblage (Cont.).

General Observations and Relationship to Sherd Assemblage

For the most part, the sherds and whole vessels reflect a similar picture of ceramic production in the Central Arkansas Valley, or at least at the Carden Bottoms site. Both whole vessels and sherds suggest that shell tempering and compact, hard pastes were favored and were usually smoothed prior to any decoration. Polishing was observed more frequently on sherds, especially those from the trash pits outside of House 1, than on whole vessels. This supports the possibility that many of the pots represented by sherds in that feature were broken shortly after construction, and that another archaeological feature in the vicinity may have been a loci where decorated ceramic vessels were manufactured. Rim and body thicknesses averaged between 0.5 and 0.6 cm. Comparing diameters is problematic. In the sherd assemblage diameter was measured only on 82 rim fragments. Diameter was measured at multiple zones on whole vessels. The average rim diameter on whole vessels is 13.66 mm and 15.99 mm on the sherds. Only a handful of possible bases have thus far been identified in the sherds excavated at Carden Bottoms. This is in line with the overall lack of defined bases observed on vessels from the region.

Decorative modes observed on sherds and vessels are similar. Incising is the most common technique observed on rim sherds, whereas painted rims are more common on whole vessels. However painting and incising are generally the most common decorative techniques observed in both sherds and whole vessels, further reinforcing the notion that these modes were preferences of Arkansas Valley potters. The most striking difference in decorative modes noticed between sherds and whole vessels is the absence of engraving. Only 54 sherds with engraving were documented, but it is the second most common decorative technique used on the whole vessels. This hints at the possibility that many of the vessels with engraving as a dominant technique were made elsewhere and imported or traded into the Arkansas River Valley.

While the comparisons between the sherds and whole vessels are not absolutely definitive, they suggest that most of the whole vessels did come from the region. The discussion thus far has primarily centered on technical, construction and manufacturing techniques and decisions. Decorative analysis focusing on the use of specific elements, the formation of motifs and their overall application and placement on vessels will further inform the overall picture of ceramic vessel production and style in the Central Arkansas River Valley. Chapter five focuses on doing this, as well as examining artistic production in the area in general.

CHAPTER FIVE: DEFINING STYLE IN THE CENTRAL ARKANSAS RIVER VALLEY

The information presented in the previous chapters from the sherd and whole vessel assemblages provides a picture of the formal and normative qualities of ceramic vessels from Carden Bottoms, and possibly much of the Protohistoric Central Arkansas River Valley. Drawing comparisons within and between the two assemblages and incorporating them into one analytic corpus is difficult, but necessary in order to provide some level of context for the looted whole vessels. The context established, between sherds from a refuse pit and whole vessels from burials, is not a direct correlation. However modern archaeological opinion, at least the position of this project, is that burials should remain untouched – archaeologically and otherwise. The context demonstrated suggests that similar (and nearly identical in some cases) material culture items were present in a domestic context, whether from manufacture, use, or circumstances, at Carden Bottoms.

But what do we do with that knowledge? There has long been a struggle within the discipline of archaeology to take normative categories of data and apply them empirically to investigate and interpret the more intangible categories of past life. It is precisely these types of categories that this analysis seeks to investigate: social liminality within time periods and communities, agency as it is carried, conveyed and embodied by objects and the relationships between various categories of material culture and iconographic imagery.

The Carden Bottoms Phase, Re-examined.

Traditionally, the archaeological materials from the Arkansas River Valley have been categorized and examined using the analytic constructs of complexes and phases. The Carden Bottoms complex was defined by Hoffman in 1977 based on descriptions by Harrington (1924) of the material being dug by looters in the Carden Bottoms vicinity. Harrington felt that the

pottery represented a heterogeneous mix between Caddo and Quapaw traditions (Harrington 1924), and this subsequently became a foundational principle of the overall Carden Bottoms phase. The complex was characterized as late prehistoric with a great deal of variability in the looted ceramic assemblages, relatively plain pipes, an abundance of Nodena points and the presence of marine shell ornaments – all from looted burial contexts (Harrington 1924; Hoffman 1977a: 5-6). Referencing the Carden Bottoms site in his definition of the archaeological complex, Hoffman states: “Certainly the material represented at this site and other cemeteries gutted at about the same time (Greengo 1957:19) represents an un-described culture unique to the central Arkansas River valley and extremely significant to culture history of both the central Mississippi valley and Caddoan areas,” (1977a: 6). The complex was further refined and referred to as a phase (Clancy 1985; Hoffman 1986). Generally, it became synonymous with sites that are located near the mouths of rivers and streams that feed into the Arkansas River above Little Rock. “They are known through mortuary ceramics purchased by the University of Arkansas Museum in the 1920s and 1930s, from the Lemley collection in the Gilcrease Museum, and through comments in site survey reports,” (Hoffman 1986:30).

Archaeological phases can be useful categorizations for comparing and classifying objects temporally and geographically. Philip Phillips and Gordon Willey (1953) devised the large-scale classificatory system in the 1950s, drawing from principles of culture history dating back to the early twentieth century. “*Components* were stratigraphically delimited aggregates of artifacts that were more or less equivalent to occupations, or communities. *Phases* were sets of virtually identical components and thus were the archaeological equivalents of societies,” (O’Brien et al. 2005:19). Expanding further on this classificatory system that grouped like with like and assumed similarity in material objects is equivalent to similarity in culture or social

groups, they outlined the concept of horizons and traditions. Horizons represent archaeological manifestations that were geographically widespread, but of a relatively short duration; while traditions were long lasting, but not as widespread (Willey and Phillips 1953; Willey 1945). Phases serve well as classificatory tools for distinct geographic areas when they are adequately supported with widespread archaeological data and a series of tightly controlled dates for material contexts. However, the concept becomes tenuous when a one to one or causal relationship is assumed to exist between archaeological materials and ethnic groups, especially when there is little or no excavated archaeological data underpinning it.

The Carden Bottoms phase, as a concept, suffers from such weaknesses, weaknesses acknowledged by Hoffman (1986) and Clancy (1985). It was defined based solely on looted pottery, which has limited provenience information. Phyllis Clancy's 1985 thesis documented the pottery vessels from Carden Bottoms at the University of Arkansas Museum and assigned the pots to type/variety classifications whenever possible. The phase, as it was defined, was not tied geographically and temporally via objects or artifacts. Only recently have excavations begun to provide the context needed to establish an archaeological context for these pots (Walker 2008, 2012, 2013). There does seem to be a Protohistoric series of communities, possibly related at varying levels, in the Central Arkansas River Valley. In that respect, the Carden Bottoms phase concept appears to be *right*, but it is still not *robust*. It will take excavation and dating at a number of other sites in the region, and subsequent comparative analysis to have the level of data necessary to begin to categorize late Protohistoric communities in the valley in such a broad, generalizing way – one that seemingly attempts to categorize cultures based on all classes of material culture simultaneously. This approach tends to form associations where they may not exist in actuality.

Style in Archaeology.

Style in one characterization or another has been a central part of archaeological analysis since the earliest days of the discipline. It has been used as a defining component of material culture since the days of culture historians in the early twentieth century (Conkey 1990; Milner 1983). “Style” was used as a means of classifying objects into categories based on formal, functional or decorative similarity (stemming from an underlying reliance on seriation) (Childe 1925, 1926). These categories became synonymous with culture in many instances, albeit not always intentionally, and set the stage for the development of taxonomic classification systems for artifacts across the southeastern United States and elsewhere (Kreiger 1944; McKern 1939). Revisions of this basic use of style as a means of sorting and classifying artifacts have been used in the region for decades (Phillips, Ford and Griffin 1951; Phillips 1970), although these later models are quick to demonstrate that they cannot be used as a means of explaining identified variation within categories. The “New Archaeology,” or processual archaeology movement shifted the focus from merely drawing comparisons and sorting, to understanding and interpreting the human cultural and behavioral processes at work to generate variation within material culture (Binford 1962; Willey and Phillips 1953). Style subsequently became synonymous with formal variation of one kind or another, within archaeological analysis, and hasn’t departed dramatically from this inception.

Almost as soon as the ideas of processual archaeology had begun to take hold in North American archaeology, others began to challenge them. By the early 1980s, critics of processual archaeology were advocating a new approach, commonly called interpretive (or post-processual) archaeology (Hodder 1985, 1989, 2005; Tilley 1989). Interpretive archaeologists argued that processual archaeology was too deterministic, lacked significant regard for the role of agency in

social and material change and that strict interpretations of artifacts can sometimes mask variation within archaeological assemblages (Hodder 1985, 1989, 2005; Tilley 1989; Tilley et al. 2006). Interpretive archaeology draws from practice theory (Bourdieu 1977; 1990), which illustrates the relationship between agency and cultural structures. Interpretive archaeology has expanded to include a variety of approaches, particularly with regard to style. Isochrestic approaches to the study of style assume that style resides in all aspects of variation. “The isochrestic model postulates that style is essentially ubiquitous in formal variation, residing in both its instrumental and adjunct components,” (Sackett 1990:34). In contrast, the iconological model of style focuses more on adjunct formal variation while assuming that style has communicative or symbolic properties (Conkey 1990; Wiessner 1990; Wobst 1977). The overall use of style within interpretive archaeology is still primarily used in one way or another to recognize and categorize formal variation, but with the perspective that material objects, and the style embodied within them, can have symbolic function. However, style alone cannot interpret such symbolism and does not itself contain meaning. Other analytic models, such as iconographic ones, and supporting independent data are needed to assess representation (Davis 1990). The archaeological definition of style used herein is largely concerned with the formal qualities of material culture – the “how” of an image or object and not the “what” of an image or object, which is more properly iconographic in nature (Brown 2007; Knight 2013).

Style and “Styles” in the Central Arkansas River Valley

The term style is somewhat conflated, at least grammatically, within Southeastern archaeology. It is a “notoriously slippery concept that has been used to cover an extraordinary range of products and performances,” (Brown 2007:214). Style is used in an analytic sense in a variety of ways, as described above, but it is sometimes used to refer to an overall group of items

associated by designated categories of formal variation. The two uses of this are essentially different sides of the same coin. Both focus on variation within assemblages. Style is discussed from a methodological standpoint when outlining analytic models that are applied to a specific corpus of artifacts. When such a systematic analysis of formal variation results in identified groupings of objects with shared traits among predetermined categories, they are referred to as “styles.” Used in this manner, rather than simply from a methodological perspective, “style” acknowledges a dynamic between variability in material culture and geo/temporal location. “This perspective carries with it an acknowledgement that style exists in a tension between the particularity of time, place, ethnicity, and class on the one hand and its communicative function through widespread and time-honored understandings on the other,” (Brown 2007:16).

Vernon J. Knight, Jr. recently outlined a model for conducting iconographic analysis in his work *Iconographic Method in New World Prehistory*, (2013). The analysis of the Central Arkansas River Valley material was designed and the data gathered prior to the publication of Knight’s illustrative model, so his model cannot be applied in totality, nor is it suggested. However, certain aspects of his guide are useful for evaluating this material.

He explores the relationship between style and iconography and presents a model for examining style that enables subsequent sound iconographic analysis of the same material (2013:23-54). His approach is presented using a series of guiding or foundational “principles,” designed to form an underlying framework of iconographic analysis. His principle number four characterizes style: “Iconographic modeling of a corpus of related images cannot go far absent an adequate understanding of their style, conceived of as the cultural model governing their form,” (2013:23). It is a “cultural model governing the form of all things artificial,” (Knight 2013:23). Knight is concerned with style as it is beheld, not necessarily as it is produced. He argues that

procedural models governing production may not always be visible at an archaeological level (2013:25). This point, while useful from a primarily iconographic analytic position, is not as salient in the analysis presented for the material from the Central Arkansas River Valley.

Knight is insistent that that “style, in a set of related representational images can be and should be studied apart from questions of reference,” (2013:30) an idea he draws from the work of Boas who ascertains that while idea and style exist independently, they “influence each other constantly,” (1903:497). Knight approaches the characterization of style and subsequent study of iconography by first studying “categories of stylistic canons,” categories determined by cultural models that determine how representational imagery is depicted on given types of material. The categories should ideally “specific, explicit and objective,” (Knight 2013:40-52). His stylistic categories include: genres, media, decorative elements, layout, use of positive and negative space, scale, relative size, depth cues in two-dimensional representation, conventions of perspective and proportion, dimensionality, degree of elaboration and non-objective aesthetic quality,” (2013:39-52). Knight then uses these categories to refine stylistic canons and inform iconographic analysis. This analysis draws from his categories of genre, media, decorative elements and dimensionality.

Knight identifies genres within stylistic canons as “categories of artifacts or architecture devoted to different purposes,” (2013:35). It is not tied strictly to media and consists of categories such as gorgets, bottles, bowls, effigies, rock art, shell cups, or basketry. Stylistic norms may be identified for a limited number of genres and expanded to include others as further analysis and documentation refines stylistic canons. Multiple genres may exist within a given stylistic tradition or canon, and “stylistic models change as genres change,” (Knight’s principle

number five, 2013:35). Genres identified within the various stylistic canons of the Central Arkansas River Valley include: rock art, ceramic bottles, bowls, jars and effigies.

The primary media identified in this analysis are ceramic, pigment – likely in the form of clay - and stone. Certain mediums may be more suited to use in specific ways, but may have limitations that others do not and vice versa. Within genres, it may be possible to identify preferences of execution, orientation, etc. that correlate with specific media. These, in turn may have some correlation geographically or temporally and further refine the overall stylistic canon. “Different materials have different potentials that have a decisive bearing on visual outcomes, to which artisans skilled in working with these materials are strongly attuned,” (Knight 2013:41).

Decorative effects are characterized as applications to an object that may or may not have significant association with any subject or motif, but that are governed by cultural models of appropriateness, just as other aspects of a stylistic canon. One prominent example of this category within this assemblage is the use of engraved, hatchured marks to fill areas within decorative motifs. These are often filled with red pigment. Such an effect alone does not make a motif, but it frequently fills them. These types of effects are also easily recognized as appropriate and correct within social norms that dictate the specific category of formal variation. “A broad cultural order such as this, which organizes a family of special-purpose models including that of pottery decoration, is an example of what Shore (1996:53-54) calls ‘foundation schema.’ Sackett (1990: 41-42) has discussed this phenomenon as ‘deep style,’” (Knight 2013:42).

Dimensionality as a category within style is particularly useful in examining the ceramic vessels from the Central Arkansas River Valley. Many of the images applied to the pottery form different motifs when viewed from different angles, suggesting that the artists and beholders of

the pottery considered them as sculptural or figural, fully three-dimensional objects, instead of two-dimensional surfaces. Effigy vessels, bowls and bottles also often use the body of the vessel to form the body of the entity being depicted. Vessel orifices routinely are used as a central portion of imagery as well, all features reliant on a governed perception and use of the dimensional categories of pottery production in this area (Figure 61).



Figure 61. Effigy bottle forming animal body, Yell County, Gilcrease Museum (5425.1700).

This work relies most heavily on the work of Phillips and Brown (1978), defining styles within engraved shell from the Spiro site, and Veletta Canouts' (1986) dissertation which examined the relationship between boundary conditions and ceramic motif style in Havana Hopewell and Marksville ceramics. These two works provided examples for actually formulating a methodology for outlining the formal variation, or style, of the images depicted on the Central Arkansas River Valley pottery. It is not the focus of this analysis to conduct an iconographic analysis of these images. As Knight clarified: “stylistic study aims to account for the forms of images,” and leaves it to iconographic study to “identify their referents,” (2013:22). The focus of this chapter continues to be identifying styles represented within the overall corpus of the region. Subsequent chapters examine how relationships between iconographic images

inform our interpretations of social processes and the agency of objects, images and their referents. What objects, images or referents *mean* is of little significance to this approach.

Phillip Phillips and James Brown (1978) examined engraved shell excavated and looted from the Spiro site in the early twentieth century. Objects and fragments were scattered in museums and private collections around the country, much the same as the assemblage from the Central Arkansas River Valley. The site is significantly more notorious as a site of catastrophic destruction from looting than Carden Bottoms, and as the location of many of the most elaborate objects and art works of the Mississippian world. Their analysis included 274 cups, 560 cup fragments, 50 shell gorgets, 105 gorget fragments and 31 other engraved shell objects. “This study was prompted by what seemed an anomalous situation: an excessive range of stylistic variability in materials for which archaeology provides limited dimensions of time and area,” (Phillips and Brown 1978: 33). Their approach to the concept of style also centered on formal variation, considering style “primarily on the side of form and structure, whether of the total design or of components and elements within it,” (1978:34). They identified schools, phases and traditions of engraved shell variation. Schools were defined as “works attributed to a larger aggregation of individuals and groups whose works seemed to have been informed by a community of ideas, the product of shared historical experience,” (Phillips and Brown 1978:34). Two schools, Braden and Craig, were identified in the Spiro shell assemblage. They have since been redubbed the Braden Style and Craig Style (Brown 1996; 2007), as they have been refined stylistically and as temporally distinct, each incorporating a wide range of artifacts from throughout the Southeast. Phases were constituted by episodes within larger trends, or schools. They emphasize that these are not defined chronologically, but acknowledge that they may have chronological correlations in some cases, especially when corroborated by stratigraphic data

(1978: 34-35). Traditions were considered to be the most amorphous, loosely defined of their categories, generally represented the broadest configuration of objects that could be considered to have similarity in form, i.e. "late Southeastern engraved shell tradition," (Phillips and Brown 1978:35). They then examined the intersection of shell structure, application of imagery and subject: "In theory our style assemblages ('schools' and their 'phases') are based on the formal qualities of design compositions and their major components, matter playing only a supporting role," (1978:39). Initially, objects were sorted into schools based on the manner in which engraved images were executed on the surface of the shell: bold, ornate or intermediate. As more images were documented and analyzed, this was eventually refined to the Braden and Craig schools, two distinctive stylistic groups with additional objects having similar characteristics to both schools while still being primarily related to one or the other (Phillips and Brown 1978:35-38). Overall design compositions in regard to the surface structure of the shell was designated as design structure, and careful attention was given to examining formal variation within composition and structure without regard to any specific nature of the subject matter. Their approach to examining these objects at the intersection of composition or image and structure is particularly useful in the Central Arkansas River Valley ceramic assemblage. Phillips and Brown divided objects based on the orientation of imagery with regard to the vertical and horizontal axis of the shell, finding that many images were symmetrically oriented with regard to these axes but a not insignificant number of shell objects had either off-centered or non-oriented placement of imagery. An additional category of horizontally banded images was identified within the school, as well as design structures that radiate in patterns outward from an intersection of axes or that spiral or interlock around such an intersection (1978:39-68). It is this technique of analysis I adapt here to examine decorated pottery vessels.

Veletta Canouts' method of breaking down ceramic decoration into individual elements then examining how elements are used, modified and adapted for motif formation on ceramic vessels is also drawn upon in devising the analytic method for this analysis. Her overall goal was a comparative analysis and formation of categories of variability in the motifs of Havana Hopewell ceramic vessels. Motifs were examined based on the "rules involved in the morphological construction of the motifs and whole vessel design configuration," (Canouts 1986:196). The principles underlying this analysis were drawn from the work of John Muller's examination of engraved imagery on shell gorgets (1979; 1984). Canouts identified design elements and design features. Design elements were created either via incising or stamping, and represented the simplest form of application of decorative technique to a vessel. Incised elements were present either as straight lines or arcs. Stamping was applied in a handful of ways: cord-wrapped dowel, dentate stamp, rocker stamp, scallop impressions or hemiconical punctate impressions (Canouts 1986:196-199). Design features were identified as "minimal design units that form recognizable patterns in the motifs and overall design configuration," (Canouts 1986:199). She examined elements as they were manipulated through geometric operations to form design features. These design features were then combined to form various figural and geometric motifs (1986:200-229). Canouts also examined the placement of motif on vessels with regard to overall placement of images on the surface of a three dimensional object, in this case pottery vessels. Design fields were considered to be distinct zones of a pot divided by manufacturing and structural technique, i.e. rims, upper bodies, lower bodies, bases, etc. (1986:230-233). She too considered the axis of the vessel with regard to placement of motifs on the surface as a category of formal variation (1986:229-239). Canouts' analysis is not as specific or explicit in its layout of method, formation of style or its relation to larger questions of

geography and time, as those previously discussed. However, her approach is worth consideration as a comparative example, as I use similar categories of style or stylistic canons. My analysis is presented below, as well as the “styles,” analogous to Phillips’s and Brown’s phases (later re-worked with the term “style” by Brown [2007]) identified within the Central Arkansas River Valley assemblage.

Stylistic Analysis and Results

Many of the categories of style within the assemblage of Central Arkansas River Valley ceramics were discussed in the previous two chapters. Again, the excavated sherd assemblage is critical for providing geographic reference and context for similar categories within the whole vessels. The categories, along the lines of those analyzed in Knight’s stylistic canons, included in this analysis are: decorative technique, form (shape), media, genre, motif, design field and design structure. I have limited the corpus of vessels analyzed to those having correlates in the sherd assemblage, thus giving some level of plausibility to the notion that those “styles” of vessels could have been manufactured at the Carden Bottoms site. This provides the geographic and temporal support necessary to begin identifying “styles,” along the lines of those described as phases by Phillips and Brown (1978) and subsequently referred to as styles (Brown 2007).

Decorative technique and form were examined within the whole vessels in the previous chapter. I make a distinction between form and genre where Knight (2013) may not have. His sense of genres is primarily focused on use or function. In this assemblage there is a great deal of variation within vessels that can function in the same way - i.e. bottle, hooded bottle, effigy bottle, head pot, effigy figure. All of these function as bottles to contain something. However, their forms are widely varied and they may have served very different communicative functions.

Based on the analysis of technique and form, some categories of similarity did emerge (Chapter 4). These groupings form a starting point for further examination using the categories outlined above. The intersection of form, decorative technique, temper and geography are the basis for many of the typological classifications used in Southeastern archaeological ceramics. The type/variety system that is most prevalently used today has its roots in the Midwestern Taxonomic System (McKern 1939) and the work of Kreiger (1944), but can be more distinctly traced to the Lower Mississippi Valley Survey of Phillips, Ford and Griffin (1951) and the Yazoo Basin survey by Phillips (1970). Types and varieties within these works were defined based on sherds found at specific locations within the survey areas. At the time these types were defined, they were based on limited archaeological data and no scientific dating, and little knowledge of related regional sites. The system was designed as a means of easing further work to examine the relationship between specific types of ceramics in the Lower Mississippi Valley. However, it has, over the decades too often been conflated with culture, instead of remaining solely about material objects. This, coupled with the limited criteria that many types and varieties are based on, leads many researchers to speculate about relationships that may not exist or that may not be based around ceramic variation. A further difficulty in using these types and varieties is that most of them were defined based on sherds. Sherds are fragments of a whole, and often a whole vessel has multiple decorative techniques used on its surface. Because of these issues, the type/variety system is used only as a lexicon for comparison for other researchers. The information regarding identification along those lines was presented in Chapter four.

The categories of style previously analyzed revealed that the most common decorative technique utilized in the overall assemblage was painting (most often red, but with white and black on occasion as well). Painted bowls and bottles are most common, and red paint (Chapter

four) is the most common color. This is a trend that is noted in the rock art on the sandstone outcrops surrounding the valley, also. Many of the elements and motifs are the same between the media of rock art and pottery. Thus, techniques and motifs are shared across genres and media, providing the basis for a regional style. This proposed style is presented in detail later in this chapter. Solid groupings emerge when similarity is noted within the formal variation across a combination of categories.

My analysis proceeds by examining the following categories: decorative technique, form, media, genre, design element, motif, design field and design structure. Decorative techniques and form have been thoroughly discussed and subsequent groups of objects identified at the intersections of these two categories. Media is not as important in this analysis, but does bear some consideration. There are three identified primary mediums within the overall corpus: pottery, stone and paint. Red, white and black pigments are applied to the surface of the pottery vessels and the stone. The categories of technique (painted), elements and motifs are similar across the mediums of painted stone and painted pottery, and form the basis for the regional “style” outlined later. Most groups of stylistically aggregated objects contain only pottery. I have identified the following genres within the assemblages: bottles, bowls, jars, effigies and rock art. These overlap with form in some cases, bottles, bowls, jars and effigies, so not too much additional discussion is warranted. As a genre, rock art is the combination of the mediums of paint and stone, or the technique of pecking or carving and stone.

Element and Motif Analysis. These two categories, in combination with the field of decoration and overall design structure, form the core of my analysis of style and subsequent discussion of object agency. Therefore, a great deal more definition, discussion and illustration is given to these categories than to the others. The work of Daniel Miller (1985) also helps

inform the definition of element, motif and field used, along with the previously discussed approaches of Phillips and Brown (1978) and Canouts (1986). In an ethnographic study, using many archaeological methods for the study of ceramics, Miller examined the relationship between pottery, or artifacts, and their representation of social categories. The results of this study are more relevant in the discussion within subsequent sections of this analysis, and not necessarily as an example of ceramic analysis. However, his definitions regarding field, element and motif are quite useful (Miller 1985:98-100).

Elements are defined for this study as: a “shape irreducible in form,” (Miller 1985:99). They are not themselves used alone, but are joined, elaborated on or produced in repetitive patterns to form a motif. The following elements are identified in this analysis: vertical line, horizontal line, diagonal line, encircling line, curvilinear line, circle, punctated line, individualized punctations, arc, node, “s” scroll, spiral and hook. Hatchured fields, punctated fields and combed/brushed fields were also documented within this category. However, the patterns between these types of treatment and the categories of motif, field and structure are sporadic and most often appear to have little definitive relation to large motifs. Elements are not dependent on technique or other stylistic categories.

Motifs are combinations of elements at their primary level of recognition (Canouts 1986; Phillips and Brown 1978). They may also consist of a set of repeated patterned elements (such as a band of parallel diagonal lines) or “those which have to be described by a unique symbol,” (Miller 1985:99-100). A number of individual motifs were documented. Table 16 lists the motifs identified and their number of vessels they occur on.

Motif		Number of Vessels with Motif
Repetitive Pattern of Elements	Line Filled Triangle	38
	Nested Triangle	18
	Alternating Line Filled Triangles	28
	Alternating Nested Triangles	11
	Alternating Punctate Filled Triangles	1
	Line Filled Circle	1
	Line Filled Oval	1
	Parallel Diagonal Bands/Lines	31
	Parallel Vertical Bands/Lines	55
	Parallel Horizontal Bands/Lines	17
	Vertical Band	16
	Horizontal Band	11
	Concentric Circle	101
	Nested Hooks	68
	Nested Arcs	179
Parallel Curved Lines	2	

Relational Positioning	Opposing Scrolls	1
	Stacked Oval	1
	Nested Rhombus	1
	Nested Diamond	1
	Stacked Rectangle	1
	Nested Square	6
	Rotated Hooks	7
	Nested Chevrons	12
	Interlocking Hooks	62
	Interlocking Scroll	97

Unique Symbols	Inverted Arc	1
	Leaf	1
	Scalp Lock	1
	Forked Eye	2
	Pulled Oval	2
	Bilobed Arrow	2
	Ogee	7
	Oval	11
	Spiral	12
	Circle	61
	Anthropomorph	50

Table 16. Motifs documented on vessels, and the number of vessels they occur on.

	Motif	Number of Vessels with Motif
	Zoomorph	75
Combination of Elements	Cross	67
	Cross in Circle	20
	Arcades	23
	Hourglass	53
	Rectangle	2
	Rhombus	1
	Lattice	5
	Hexagon	5
	Looped Square	3
	Terrace	3
	Reniform	3
	Triquetra	6
	Diamond	7
	Pulled Square	95
	Petaloid	10
	Rayed Arc	13
	Trilobe	13
	Pentagon	15
	Square	15
	Star/Spinning Star	17
	Spinning Cross	16
	Zig-Zag	18
	Rayed Circle	29
	Triskelion	59
Rayed Hook	1	
Triangle	118	
Rayed Triangle	1	

Table 16. Motifs documented on vessels, and the number of vessels they occur on (Cont.).

Motifs in the above table are sorted based on their manner of construction from elements. Motifs that are unique symbols, not constructed from combinations of elements, include circles, ovals and spirals. Repetitive patterns of elements are also common on the vessels, such as parallel diagonal bands and nested arcs. As motifs alone, they lack any easily identifiable representational qualities, but when considered in the overall design structure they do appear to have a significant role in forming possibly representational or referential motifs. The remainder

of motifs are formed by combinations of elements or relational orientation or placement of unique symbols (Figure 62).

Design fields were identified as lip, rim, neck, upper body, mid body, lower body and base (Figure 63). The design structure was designated by the view: superior, medial, lateral and inferior (Figure 64). Motifs documented were tied to their location both in fields and structure/view. Lips almost never had identifiable motifs present. Various decorative techniques, crenellation, notching, punctating, etc., were added, but the field is not large enough to apply motifs on, for the most part. Variations of triangular motifs (line filled triangles, alternating triangles, nested triangles, etc.) are the most common motifs documented on the rims and necks of vessels, usually bowls and jars (Figure 65). Nested arcs were also documented regularly on the rim (usually on bowls). The hourglass motif occurs with some regularity on all fields of the body except for the lip. It was documented most frequently on the carinated rims of engraved bowls and on the bodies of engraved bottles, and is often formed using negative space between other elements, techniques or motifs (Figure 66). A table showing the motifs as they occur on design fields is presented in Appendix D.

A brief word about the use of positive vs. negative space is warranted here. Within this assemblage, negative space, or space absent of elements or fields of decorative technique, is common. Unfortunately, this was not a category considered for documentation at the onset of the project. Motifs formed from negative space were documented according to motif classification, but no specific notation was made regarding their formation from negative space vs. positive space (actual applied technique). Therefore, it is frequently observed within the assemblage, but cannot be accounted for empirically, independently of motif.

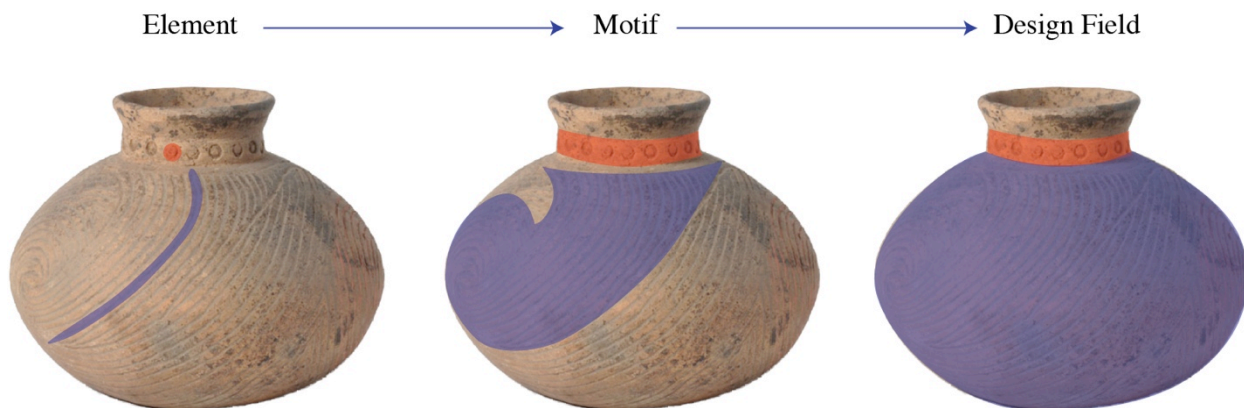


Figure 62. Vessel design fields.

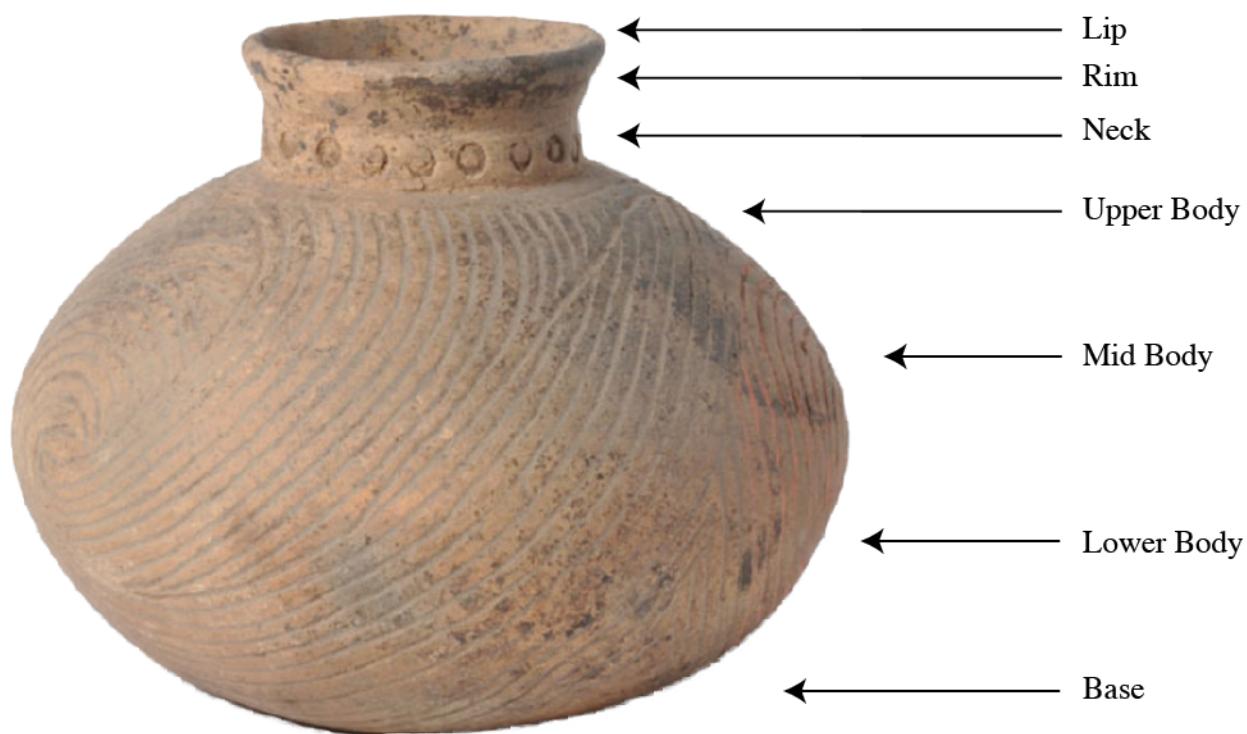


Figure 63. Vessel design fields, Gilcrease Museum (5425.552).

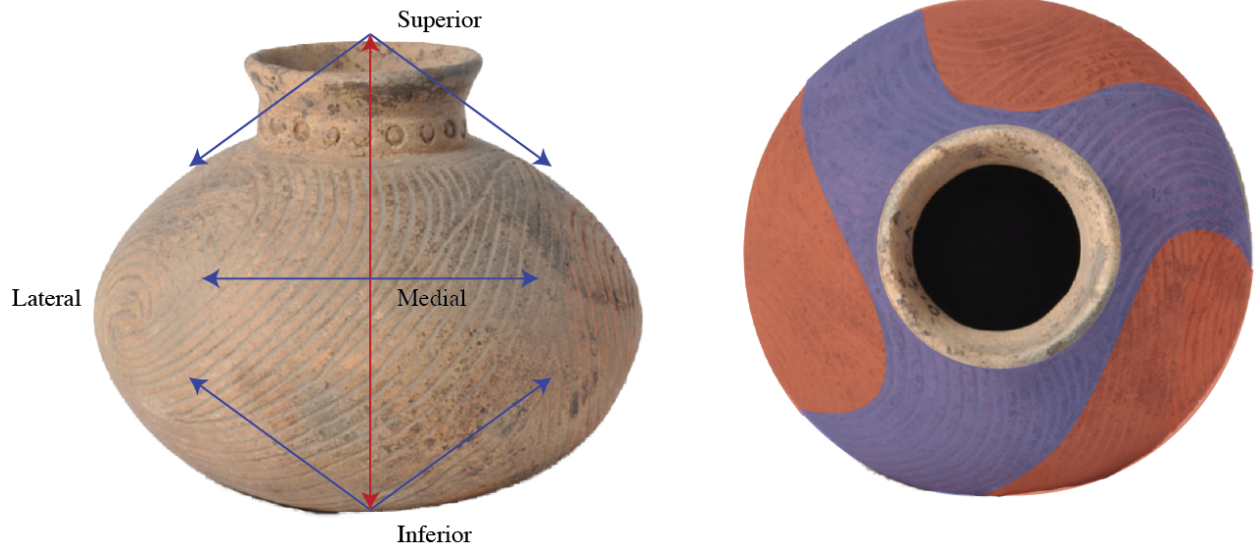


Figure 64. Vessel design structure.



Figure 65. Bowl with alternating line filled triangle motif on rim, Carden Bottoms, University of Arkansas Museum Collections (27-11-97).



Figure 66. Carinated bowl with cross-hatch filled hourglass on rim, Carden Bottoms, University of Arkansas Museum Collections (31-12-5). Photo Jane Kellett (AAS).

When motifs are examined based on design structure, some distinct patterns emerge. The spinning cross, cross-in-circle, triskelion, triquetra, petaloid, pulled square, square and star are each only visible in the superior or inferior view of a vessel, and are created by the placement of images identified as other, distinct motifs in the medial or lateral view. Concentric circles are common in almost all views except for the inferior, and are usually formed by encircling lines that mark a transition between design fields (i.e. the body from neck or base). The cross is visible primarily in the superior view, and often are formed by the intersection of the axis of nodes or handles placed around the vessel shoulder, mid body, lip or rim (Figure 67).

All motifs that consist of parallel lines or bands (of any orientation – horizontal, diagonal, vertical) are visible in the medial or lateral view only. All motifs that consist of line filled triangles, nested triangles, punctate filled triangles or variations of those are primarily (except for seven instances) visible in medial and lateral views only. Ovals are visible only in the medial and lateral view, and nested arcs (the most frequently occurring motif at 332 total occurrences)



Figure 67. Cross, formed in superior view by nodes on vessel, Carden Bottoms, University of Arkansas Museum Collections (27-11-118).

are predominantly visible in the medial or lateral view. Interlocking scrolls and hooks are also almost exclusively visible in the medial and lateral views, but form two of the most dominant motifs in the assemblage in the superior and inferior view. When interlocking scrolls or hooks are repeated four times around the medial and lateral portions of a bottle, they form a pulled square in the superior and sometimes, inferior views. It is this relationship between the categories of motif, design field and design structure that proves useful for discerning patterns of similarity that emerge within the assemblage. These patterns are more distinct when technique and form are also considered.

From Carden Bottom Phase to Dardenne Style – Patterns in Stylistic Variation

When all of the above categories of formal variation were considered, groups of stylistically similar vessels became apparent within the assemblage. Some of these groups have corresponding stylistic aggregations within the sherd assemblage, supporting the idea that they were at least present, if not manufactured, at the Carden Bottoms site. The combination of empirically observed stylistic similarity and additional sources of corresponding data from an excavated context is needed to define “style” in the sense of a conglomerate of objects with geographic and temporal relatedness. Only one group of seemingly related objects and images

from the Central Arkansas River Valley currently meets these criteria. It is discussed in depth below, but first an outline of four other groupings among the pottery vessels is presented.

Trailed Bottles & Jars. Fragments of vessels identified within the type/variety system as Keno Trailed were found in the unassociated refuse pits, the pits associated with House 1 (Figure 68) and in House 3 (Figure 69). There are 68 bottles and jars with trailed motifs on the vessel body in the whole vessel assemblage. The bottles form the bulk of this stylistically similar group. Trailed jars generally fall into two groups of similarity: one with curvilinear motifs on the upper, mid and lower bodies, like the bottles; and jars with concentric circles accentuated by a central node. The latter of these two is commonly referred to as Foster Trailed Incised in the type/variety system, and is not considered to be a part of this grouping. Keno Trailed vessels are commonly found in assemblages from southern Arkansas and northern Louisiana, so alone, they are not significant in discussing styles particular to this region. Questions also remain regarding manufacture location vs. the location in which they appear in an archaeological context. This could only be resolved via chemical testing of sherds and local clay sources, such as the work of Rebecca Weiwel (2014). Given the approach of style herein, and the fact that these vessels were obviously in use in a domestic context at Carden Bottoms, their source of origin is not of great import. They were a part of the assemblage in use at the site by its inhabitants.

There are 50 trailed bottles considered to be stylistically similar. They primarily have curvilinear, nested motifs on the upper, mid and lower bodies. Necks, rims and bases are rarely decorated. The most common motifs documented are nested arcs, nested hooks, interlocking scrolls and concentric circles. Crosses, squares, pulled squares and triskelions are formed from the motifs when viewed from a superior perspective. Table 17 and Figures 70 through 72 illustrate this stylistic group within the Central Arkansas River Valley assemblages.



Figure 68. Trailed sherds from pits associated with House 1, Carden Bottoms (2010-380-114-1-8 and 2012-364-19-1-15).



Figure 69. Trailed jar fragment, House 3, Carden Bottoms (2011-400-49-1-4).



Figure 70. Trailed jar, Pulaski County, Gilcrease Museum (5425.1563).



Figure 71. Trailed bottle, Yell County, Gilcrease Museum (5425.1697).



Figure 72. Trailed bottle, Kinkead Mainard (3PU0002), University of Arkansas Museum Collections (32-101-45a).

Motif	base	lower body	mid body	neck	upper body	superior/inferior	Total
alternating line filled triangles		1	1		1		3
anthropomorph			1				1
Arcades		1	1		1		3
Circle		1	1		1	1	4
concentric circle		2	3		1	10	16
Cross						2	2
cross in circle						1	1
horizontal band				2			2
Hourglass		1	1		1		3
interlocking hooks			7		1		8
interlocking scroll		2	14		7		23
line filled triangle		1			3	1	5
looped square						2	2
nested arcs	1	26	14		36		77
nested chevrons				3		1	4
nested hooks		15	25		24		64
nested square		1	1		1	1	4
nested triangle		1			1		2
opposing scrolls			1				1
parallel diagonal lines		1	1		1		3
parallel vertical lines		3	2		2		7
pentagon						3	3
petaloid						3	3
pulled square						13	13
rayed circle						1	1
rotated hooks		2	2		2		6
spinning cross						5	5
spinning square						6	6
square						4	4
star						5	5
triangle		3			6	1	10
trilobe						2	2
triquetra						2	2
triskelion						6	6
vertical bands	1	1	1		1		4

Table 17. Motif, design field and design structure on trailed bottles.

Bowls and Jars with Triangular Motifs. This group consists of vessels with the forms of bowls and jars. The linear incising present is almost exclusively located on the rim, neck or upper body, with elements forming variations of triangular motifs. Triangles are filled with diagonal lines, punctates (less frequently) or other, nested triangles. This occurs on globular bowls and jars, and there is often carbonized remains on the vessels and sherds, suggesting a more utilitarian function than other stylistic categories of vessels. These motifs are not particularly representation or referential, at least to the archaeologist. However, as demonstrated in chapters three and four, as well as above, this is a very common style of vessel at the Carden Bottoms site and in the Central Arkansas River Valley as a whole. Within this analysis and others (Clancy 1985; Hoffman 1977), it is often pressed into the type/variety classification of Barton Incised. However, it does not strictly conform to the parameters originally outlined for that type, particularly with the overall body shape (Phillips 1970). Figures 73 through 76 illustrate this stylistic category as it was documented in sherds and whole vessels.



Figure 73. Incised sherds with triangular motifs, TU15, House 1 pits (2012-364-54-1-3, 2012-364-104-1-5, 2012-364-127-1-2).



Figure 74. Incised sherds with triangular motifs, Carden Bottoms (2010-380-117: 1-11, 1-4, 1-3, 1-9).



Figure 75. Bowl with incised triangular motif on rim, Carden Bottoms, Gilcrease Museum (5425.1606).



Figure 76. Jar with incised triangular motif on neck, Carden Bottoms, University of Arkansas Museum Collections (27-11-81).

“Hybridized” Vessels. This category represents perhaps the most intriguing category of vessels in the Central Arkansas River Valley; but unfortunately the least empirically supported category. It has its roots as a characteristic of the region in some of the very earliest characterizations of the ceramics from the area (Dickson and Dellinger 1941; Harrington 1924). However, even this analysis has been unable to adequately quantify it. A number of vessels have motifs on vessels with paste or form not typically associated. Thirty-two vessels (Table 18) were noted to have hybridized or localized properties during documentation. An assessment of motif, design field and design structure within these 32 vessels revealed too much variation to draw consistent patterns. At this point, it is premature to give too much significance to this category of vessels. Never the less, the consistent observation of this characteristic by various researchers over nearly a century of examination of vessels from this region is significant. Perhaps with more refined characterizations of stylistically similar categories, or a “tightening” of them, if you will, categories of local rendition or hybridization will be clarified. It is worth further investigation. IF vessels in the Carden Bottoms vicinity were being constructed with motifs

typical of other, neighboring or earlier, ceramic traditions on local form and with local paste, it bears some significance as a category of examination for the larger social processes that were potentially at work during this liminal period. Figures 77 and 78 demonstrate two vessels considered to have “hybrid” characteristics.

Form	Count
bottle	8
bowl	9
carinated	1
compound	1
effigy	1
jar	11
tripod	1
Total	32

Table 18. Form of “Hybrid” or Local Variant Vessels.



Figure 77. Possible local variant bottle, Pope County, Gilcrease Museum (5425.2601).



Figure 78. Possible “Hybridized” vessel, Jeff Davis Place, Gilcrease Museum (5425.1891).

Effigy Bowls and Bottles. “Effigy” alone should be considered a form and not a stylistic category. By nature, they are representational, though. Thus, they have an inherent subject matter that may, or may not, be readily apparent to archaeologists. Also, by nature, there is a great deal of variation within the formal category. Within this assemblage, two forms of effigy are most common: bottles in which the whole vessels forms the figure or part of figure being represented, and bowls with effigy heads extending off of the lip and tabular “tails,” extending off of the lip on the opposite side of the vessel. The “subject” of the effigy was documented whenever possible. Most frequently they were identified simply as anthropomorph or zoomorph. The zoomorphic figures were often described as birds (Figure 79), but species identification was usually not possible. The remainder are primarily unidentified animals (Figure 80). Various forms of frogs are also commonly depicted (Figure 81). The anthropomorphic figures exhibit some regularity. Rim rider anthropomorphic figures are either have an extended, triangular “head,” or the top of the “head” of the figure has been squared or flattened (Figures 82 and 83).

The most common decorative technique documented on effigy vessels in this assemblage was painting (Table 19). A number of effigy vessels are so unique that they defy any form of classification and should be analyzed or described independently (Figure 84).



Figure 79. Bird effigy bowl, Carden Bottoms, University of Arkansas Museum (27-11-177).



Figure 80. Unidentified animal effigy bowl, Carden Bottoms, Gilcrease Museum (5425.1672).



Figure 81. Frog effigies. Top: bowl, Carden Bottoms, University of Arkansas Museum (27-11-152). Bottom: bottle, Carden Bottoms, Gilcrease Museum (5425.1619).



Figure 82. Anthropomorphic effigy vessel, Carden Bottoms, University of Arkansas Museum (27-11-100).



Figure 83. Anthropomorphic effigy bowl, Field's Chapel, Gilcrease Museum (5425.1702).



Figure 84. Human effigy figure/bottle, Perry County, Gilcrease Museum (5425.1310).

The Dardenne Style. Following the methodology previously outlined, only one group exhibits enough formal similarity across multiple categories (technique, form, media, elements, motif, design structure and genre) to be considered a style in the geographic sense (Phillips and Brown 1978; Brown 2007). This group consists of painted bottles, bowls and rock art images found on Petit Jean Mountain and the Carden Bottoms vicinity, and is defined below as the Dardenne Style.

Petit Jean and Crow Mountains (across the Arkansas River from the Carden Bottoms locality) contain sandstone shelters and bluff faces on which the Native American inhabitants of the region painted numerous geometric, abstract, naturalistic and representational images. These images were documented as part of the Arkansas Archeological Survey's rock art documentation projects, previously discussed. Recording is still ongoing on Petit Jean Mountain, conducted by interested local residents. The rock art images documented on these mountains is almost

exclusively in the form of pictographs, usually red, and applied with finger strokes to the sandstone surface. The similarity in technique used to apply the images, and the types of motifs depicted in this area let Gayle Fritz and Robert Ray to designate it as the “Petit Jean Painted,” style (1982:252). This style was subsequently expanded to include images rendered in yellow and black pigments (Berg-Vogel 2005:70-71). Later documentation of additional images in the Arkansas River Valley found similar images at sites in Franklin, Johnson, Crawford and Sebastian Counties, as far west as the Fort Smith vicinity. This somewhat undermines the original conception of the Petit Jean Painted style. However, while a distinct rock art style is not readily apparent within the valley, the comparative approach taken herein demonstrates that the production of rock art *may* have been a feature of community life in the Carden Bottoms vicinity.

Decorative technique (painted) between rock art and pottery in this area is similar, but what of motif? Many of the motifs documented at the rock art sites at Petit Jean and Crow Mountain are geometric, including concentric circles (Figure 85), rayed circles (Figure 86), triangles, diamonds and nested diamonds (Figure 87), spirals (Figure 88), nested arcs (Figure 89), crosses (Figure 90) and interlocking scrolls (Figure 91). Anthropomorphic (Figure 92) and naturalistic images (plants, birds, snakes, animals and created objects) (Figure 93) are also found in abundance. One naturalistic image appears to depict a red painted pottery vessel (Figure 94). These same categories of motifs are represented, executed in similar fashion using the same medium, on pottery vessels and sherds from the Central Arkansas River valley.

Bowls (n = 75) and bottles (n=68) share the same application technique (hand, finger or wide brush strokes, then polishing) and media (clay based red pigment) as the rock art images on the surrounding hills. Table 19 shows the forms of red painted vessels. They are almost

exclusively bottles, bowls and effigies. Bowls in this grouping typically have little or no paint on the exterior body. The rims are often painted red, inside and out, and the motif is applied to the



Figure 85. Concentric circle motif, Element 3, 3CN0032, Petit Jean Mountain.



Figure 86. Rayed circle motif, Element 1, 3CN0032, Petit Jean Mountain.



Figure 87. Nested diamond motif, Element 15, 3CN0017, Petit Jean Mountain.

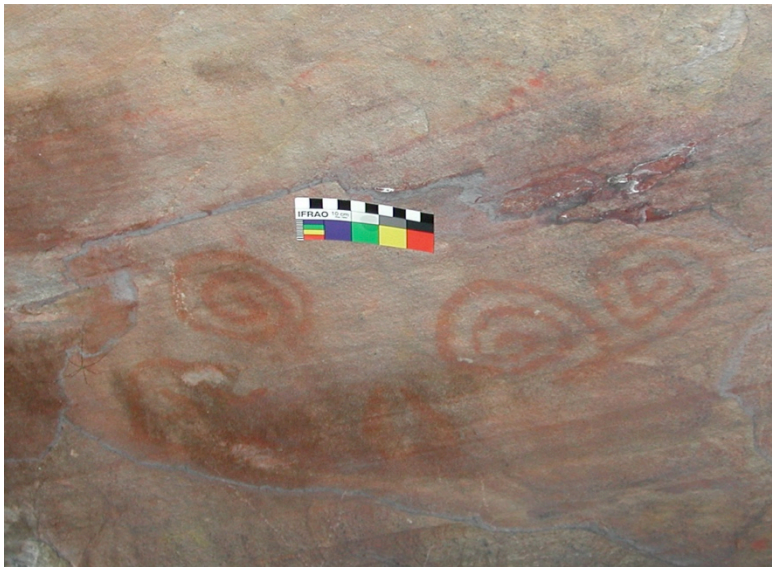


Figure 88. Spiral motif, Element 6, 3CN0130, Petit Jean Mountain.



Figure 89. Nested arcs, Element 100, 3CN0020, Petit Jean Mountain.



Figure 90. Cross, Element 68, 3CN0020, Petit Jean Mountain.



Figure 91. Interlocking hook/scroll motif, 2-D representation of interlocking scroll as viewed in medial or lateral view on pottery vessel, Element 72, 3CN0020, Petit Jean Mountain.

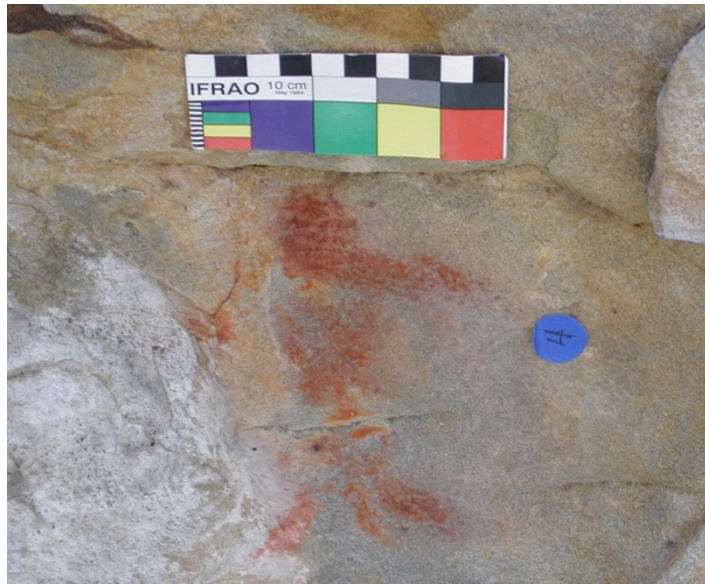


Figure 92. Anthropomorphic pictograph, Element 4, 3PP0142, Crow Mountain.



Figure 93. Zoomorphic pictograph, Panel 2, 3CN0017, Petit Jean Mountain.

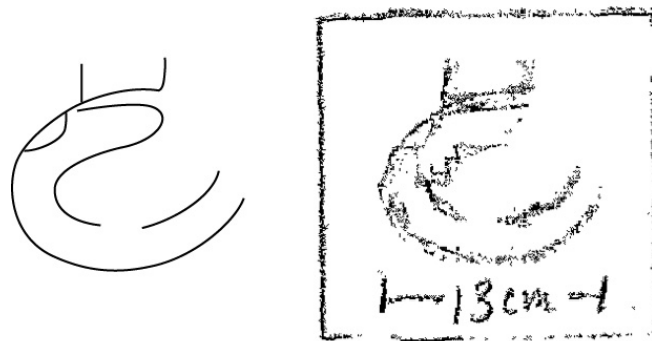


Figure 94. Drawing of red pictograph, possibly depicting decorated pottery vessel, 3CN0310, Petit Jean Mountain (drawing adapted from AAS site form).

Form	Count
bottle	68
bowl	75
compound	3
effigy	42
jar	3
saucer	2
tripod	1
Total	194

Table 19. Form of red painted vessels.



Figure 95. Red on buff bowl with pulled square, nested arcs, concentric circle and cross-in-circle motifs in superior view, Carden Bottoms, University of Arkansas Museum (27-11-143).

interior surface of the vessel, becoming visible in the superior view (Figure 95). Table 20 shows the correlation between specific motifs and the field they occur on. There are only two instances of any paint on the base of a vessel, so motifs in the inferior view are most formed using the buff colored clay, or negative space. There is much more variation among the motifs present on the interior of bowls than on bottles, but concentric circles, cross-in-circles, nested arcs, triskelions, and triangles are common motifs observed inside of the red on buff bowls (Figure 96). Bowls are painted with red paint on the buff surface only. Bottles are red, red on buff and red and white. Red, white and black is also sometimes observed, but the black seems to be less resilient and more ephemeral than the other two colors of paint. Regardless of colors of pigment used, the most common motif on bottles is the interlocking scroll in medial and lateral view, which then forms a pulled square in the superior and inferior views (Figure 97). There is a very strong correlation between the two. This relationship is also common in the trailed vessels, but the medial and lateral motifs are more intricate (formed from series of stacked or nested scrolls, hooks and arcs, rather than the single painted scrolls on bottles). Solid red bottles and red bottles with an extending “spout” and opposing node are also common (Figure 98). Bottles also exhibit some of the same motifs found in rock art and bowls, as well. Concentric circles and spirals are also found on the medial and lateral views of bottles. When pattern variations are repeated three times around the vessel, they form a triangle or triskelion motif in superior view (Figure 99).

The presence of a local style tradition centered on painted imagery and objects is further supported by evidence excavated from the features at the Carden Bottoms site. Red painted bottle fragments (Figure 100) and several red on buff bowl fragments were found in the refuse



056320.000 (NMAI) Nested Arcs

126530.000 (NMAI) Spiral/Zoomorph



5425.1634 (Gilcrease) Cross



31-12-40 UA Museum, Interlocking hook



32-101-49a



141607.000

Figure 96. Common geometric motifs on the interior of red on buff bowls.



Figure 97. Interlocking Scroll/Pulled Square motif, Owen Place, Gilcrease Museum (5425.1530).



Figure 98. Red bottle, Carden Bottoms, University of Arkansas Museum Collections (27-11-108) and red "teapot" vessel, Carden Bottoms, Gilcrease Museum (5425.1668).



Figure 99. Scroll/triskelion motif, Conway County, UA Museum Collections (29-15-1649).



Figure 100. Red bottle fragment, House 2, Carden Bottoms (2011-400-356-1-1).

pits outside of House 1 (Figure 101). Stone tools and raw materials from within the houses showed signs of being used to process red pigment and even hematite fragments were present (Figure 102). A large broken jar fragment, found in the pits outside of House 1, appears to have possibly been used as an artist's pallet (Figure 103). When examined under 10x and 30x magnification with a microscope, a majority of sherds from all excavation contexts have miniscule traces of dry red pigment on their surface (Figure 104). It is not visible with the eye, and does not appear to have been placed on the surface of vessels (sherds) intentionally. Instead, it seems that red pigment was fairly ubiquitous in the domestic settings at Carden Bottoms, and likely transferred to tools, debris and other items on a regular basis in addition to being regularly used to create pottery and rock art.

The Dardenne Style is composed of Protohistoric red painted pottery (primarily bowls and bottles) and rock art images on sandstone faces in the heart of the Central Arkansas River Valley, near Carden Bottoms. The pottery included within this style is representational in many instances and has motifs placed on the surface of the vessel in similar or identical design structures as other vessels in possibly contemporary assemblages. However, motifs are created using fewer elements or patterns of elements than incised, engraved or trailed vessels with the same motifs. A careful comparison of categories of formal variation between motifs across media (rock art and pottery) and genres, shows that there were preferences among local artists regarding execution and placement of motifs on vessels. Motifs that used the dimensionality of a three dimensional vessel to form other, corresponding motifs, were displayed in two-dimensional ways (medial/lateral view) in rock art (Figure 105). Archaeological evidence suggests that at least some steps in the production of pigment and vessels were conducted in the domestic context of houses, as well. These characteristics, informed by a variety of carefully analyzed



Figure 101. Red on buff bowl fragment, House 1 pits, Carden Bottoms, (2012-364: 54-1-2, 58-1-1 and 128-1-1).



Figure 102. Tools and raw material, House 2, hematite (center) and red pigment on sandstone ground tool (upper right), Carden Bottoms.

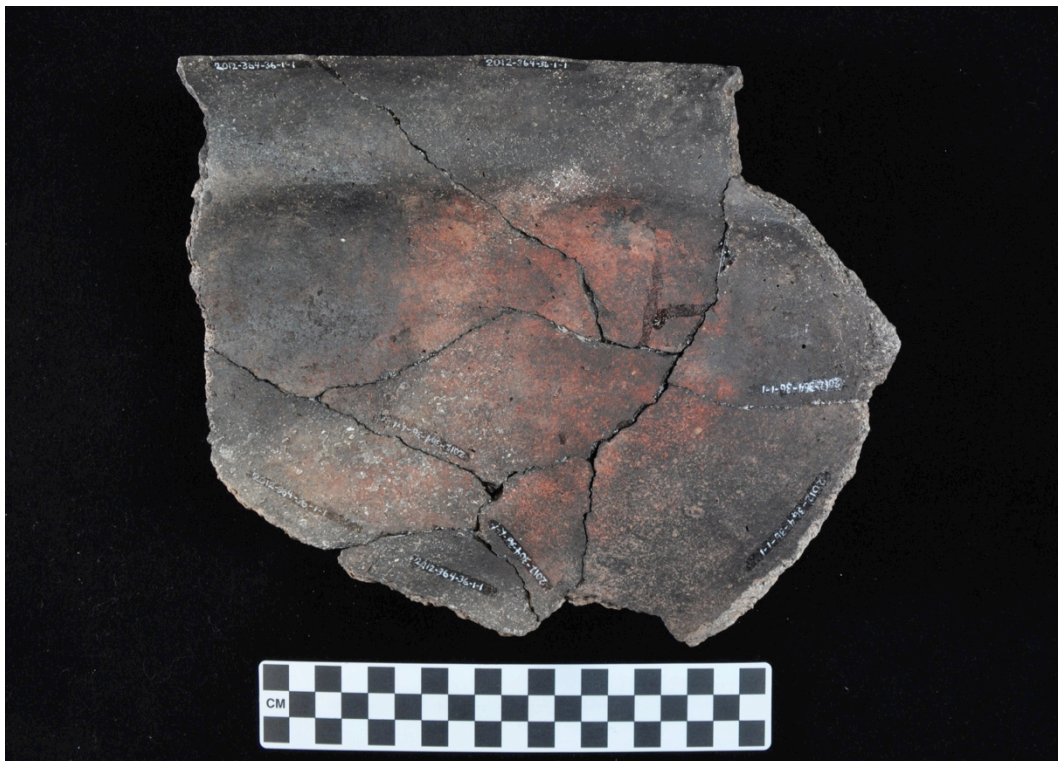


Figure 103. Jar fragment used for mixing pigment after breaking, House 1 pits, Carden Bottoms (2012-364-36-1-1).

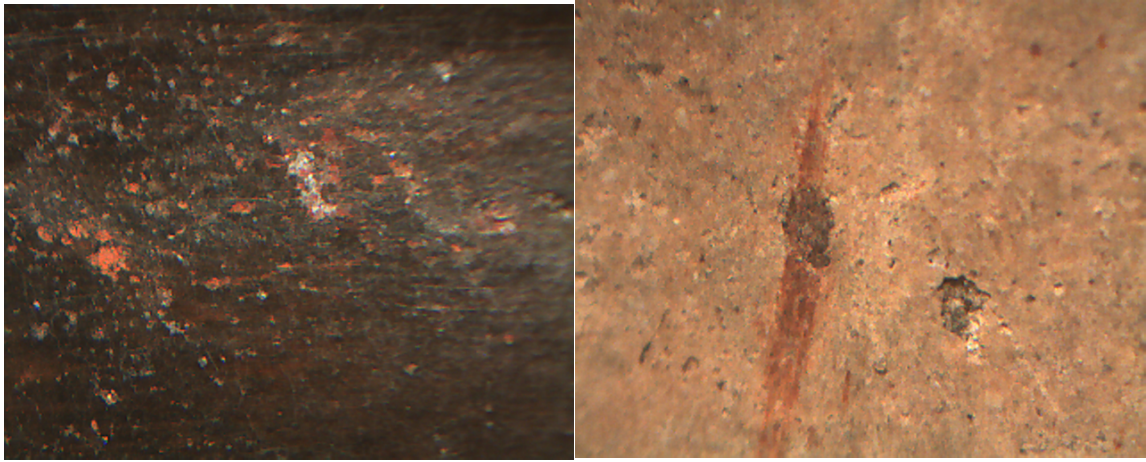


Figure 104. Sherds from House 1 pits, showing microscopic traces of red pigment, Carden Bottoms (2012-364: 76-1-6 and 19-1-8).



Figure 105. Interlocking scroll in two-dimensional rock art image (3CN0020) and on three-dimensional vessel, Carden Bottoms, University of Arkansas Museum Collections (31-12-33).

categories, define the overall regional style, not motifs or vessel decorations alone. It is the combination of factors that make the concept meaningful and useful in further investigating the Protohistoric period elsewhere in the Arkansas River Valley. It remains to be seen how wide the distribution of this style may (or may not) extend.

Summary

Style is a complex issue for archaeologists, but it is at the heart of almost any analysis they may undertake. The approach used above has revealed that the “style” of Central Arkansas River Valley is perhaps not characterized by as much variation as once believed. The combination of seemingly “different” vessels from the same archaeological context (Harrington 1924; Hoffman 1977) has bolstered this belief. In fact, previous approaches to classification of the pottery from this region may have even supported such an interpretation. Using traditional type/variety classifications, sixty-four independent types and varieties were identified, and many more vessels remained un-typed. This analysis revealed that there is much more similarity than previously thought in the categories of motif and elements, particularly as they correlate to design fields and overall design structure. The “differences” lie in the formal categories of decorative technique, form and sometimes temper. This indicates a relationship between the formal variation, or style, of motif, field and structure. It does not mean that the pottery was made by the same community, or even necessarily at the same time. The archaeological data has to inform suppositions such as that, and more excavation and dates are needed from elsewhere in the river valley to further interpret relationships between communities and pottery manufacture on a larger regional scale. However – detailed, careful stylistic analysis such as this is the first step to being able to empirically examine questions about community and social processes as they’re reflected in material culture. To better examine *relationships* between images and social process, I turn to a discussion of the practice theory, the art nexus and the agency of objects as it’s illustrated in these assemblages in the following chapter.

CHAPTER SIX: REGIONAL AND TEMPORAL COMPARISON

Working toward the overall goal of answering the questions laid out in chapter one, particularly examining the role of the agency of objects or images in a social context, it is necessary to understand how the assemblages compare on a regional and temporal scale to those around them. The careful stylistic analysis and definition of local pottery styles of the Central Arkansas River Valley still doesn't answer the age old questions and speculation that have plagued the region for nearly a century. Much of the speculation and related assumptions surround the issue of the ethnic identity of the potters and their subsequent relationships with neighboring ethnic groups and their Mississippian ancestors. This work cannot define who the inhabitants of Carden Bottoms, or any other site in the Arkansas River Valley, were ethnically. In fact, archaeology is ill suited to identify ethnicity, and categories of self-identity in general, in all but the rarest of circumstances. Such correlations are particularly problematic in the Protohistoric period, when cultural categories like ethnicity were particularly fluid and difficult to define.

Conclusions about relatedness based on the pottery alone, largely centered on aesthetic or thematic assessments of the ceramic decoration, and not controlled analytic comparison backed by excavated data are problematic. While it is tempting to begin a regional and temporal comparison using other excavated or looted whole vessel collections as a starting point, it is neither prudent, nor in the best interest of long-term research in the region to add further comparison of aesthetic or decorative qualities alone. The works of C.B. Moore (1908, 1910) are full of large, vibrant illustrations of pottery vessels from Menard, Greer, Rose Mound, Keno, Glendora and other sites in eastern and southern Arkansas and Mississippi. Many of these sites may be contemporaneous with the occupation at Carden Bottoms, but then again, they may not.

Unfortunately, most of the sites from which the large collections of whole vessels were dug are lacking much of the modern archaeological data that provides comparative context and sources for precise dates. Ongoing efforts at defining the Menard Complex (House 1991) on the lower Arkansas River and similar efforts in the St. Francis and Mississippi River valleys will hopefully remedy this situation in the near future. Furthermore, the vessels in these collections have not been documented using the same methodology as those in the Central Arkansas River Valley assemblage. The majority of data currently accessible regarding them is what can be observed in photographs and in scattered, short publications (i.e. Ford 1961; Jeter 1986; Jeter et al. 1979; McKelway 1990). While these authors each make valuable contributions, the vessels were documented with their own research needs in mind. Standardized documentation of each of the categories of formal variation (outlined in the previous chapter) is necessary for meaningful comparisons to be made across the gaps of space and time. The ideal comparison would be a similar assemblage(s) that has both excavated contextual ceramic information as well as whole vessels from the same locality, and that has been documented using the same, or similar, categories of analysis. As this would require significant amounts of further documentation at museums across the country, other ceramic assemblages have been selected for comparison in this analysis. They include ceramics from the earlier sites, Spiro Mounds (34LF0040), Mineral Springs (3HO0001) and Standridge (3MN0053), as well as contemporary assemblages at Hardman (3CL0418), Cedar Grove (3LA0097) and Goldsmith Oliver 2 (3PU0306).

All of these assemblages have both excavated materials and whole vessels for comparison. The Spiro materials are perhaps the most problematic in this respect, but the material has been thoroughly analyzed and subsequently published in detail by Phillips and Brown (1978) and Brown (1996). Material from the other sites was excavated and analyzed by

the Arkansas Archeological Survey as part of various projects, and consequently were documented in similar fashion. Each has a subsequent publication or detailed report. These publications form the basis for the following comparison. Because the materials were documented in slightly different ways over a period of several years, not all categories of formal variation outlined in the previous chapter are always available for comparison. Temper, form, elements, motif and, sometimes, design field and structure are available in the relevant publications. The nature of the questions central to this analysis, those of the agency of art and imagery and its subsequent role in the social structure of a liminal society, necessitate heightened focus on the more image based categories of motif, design field and design structure.

Antecedents to the Protohistoric Central Arkansas River Valley

Spiro. A brief introduction to the Spiro Mounds site was presented in the previous chapter, but some further description is useful here. The site consists of eleven mounds and related village and domestic areas. It was first recorded in 1914, but received widespread attention after relic hunters began finding “spectacular” artifacts in 1933. Prior to that, this portion of the Arkansas River had received very little archaeological attention. Because the region seemingly lacked the large mounds and copious amounts of highly decorated pottery of the Mississippi Valley, early archaeologists largely ignored it. As Brown astutely observes: “With such marginal expectations it is ironic that the single site to have yielded the greatest amount of ‘mound art’ – to use Moorehead’s off-hand expression – would be discovered west of the limits of the ‘pottery belt’ proper,” (1996:19). Essentially a frenzy of looting, centering on the Craig Mound, ensued between 1933 and 1936. Shortly thereafter, the University of Oklahoma was able to dissuade further looting and began combined excavations with the WPA in the fall of 1936. The Craig Mound was the location of the “Great Mortuary,” an aggregation

and deposit of highly elaborate and rare materials, objects and artworks from across the Southeast, along with the internment or reburial of seemingly significant individuals. Many of these objects and burials are thought to be re-internments of materials considered important from earlier graves across a wide area (Brown 1996:53-103). Most of the engraved shell cups discussed in the previous chapter were located within the Great Mortuary. The looted materials from this feature were purchased by collectors and museums far and wide. The detailed volumes by Phillips and Brown (1978) and Brown (1996), particularly the latter, have pulled virtually all of the material together again for analysis. Brown's (1996) volumes re-establish as much context as possible for the materials and excavation and situate the Spiro site within environmental, geological and cultural contexts. His work provides the analysis of ceramics used here for comparison to the later Central Arkansas River Valley assemblages, as well as analysis and description of artifacts of other media and genres that share similar or identical motifs. The ceramic assemblage examined by Brown consisted of 191 whole or reconstructed vessels and 17,552 sherds. Most of these came from the excavations by the WPA/University of Oklahoma. The Thoburn and King Collections of whole vessels were also included (Brown 1996) (Figure 106).

Brown has refined the temporal divisions of grave lots (features where most of the ceramics and other decorated objects came from) into four categories, Spiro I through Spiro IV, with subdivisions within each. These correspond to established cultural phases for the region. Figure 110 shows how his categories align with cultural phases in time. Generally, shell tempering increased in frequency over time, becoming almost exclusive in plain wares by the Spiro III phase (Brown 1996:341). There is some continuity of ceramic types (Sanders Plain, Spiro Engraved, Crockett Curvilinear Incised and East Incised) between the earlier stages of

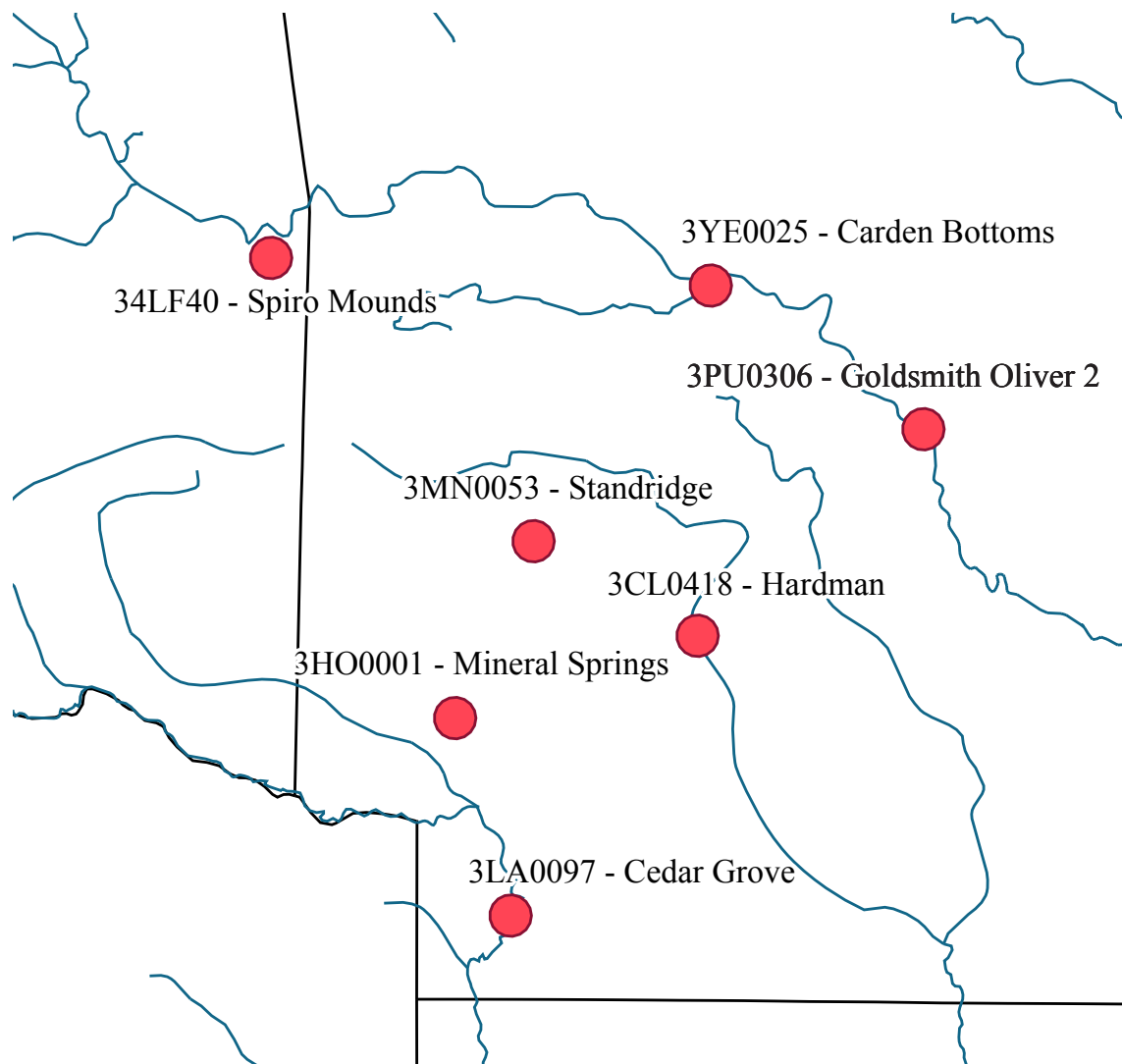


Figure 106. Sites selected for regional and temporal comparison with the Central Arkansas River Valley protohistoric ceramic assemblage.

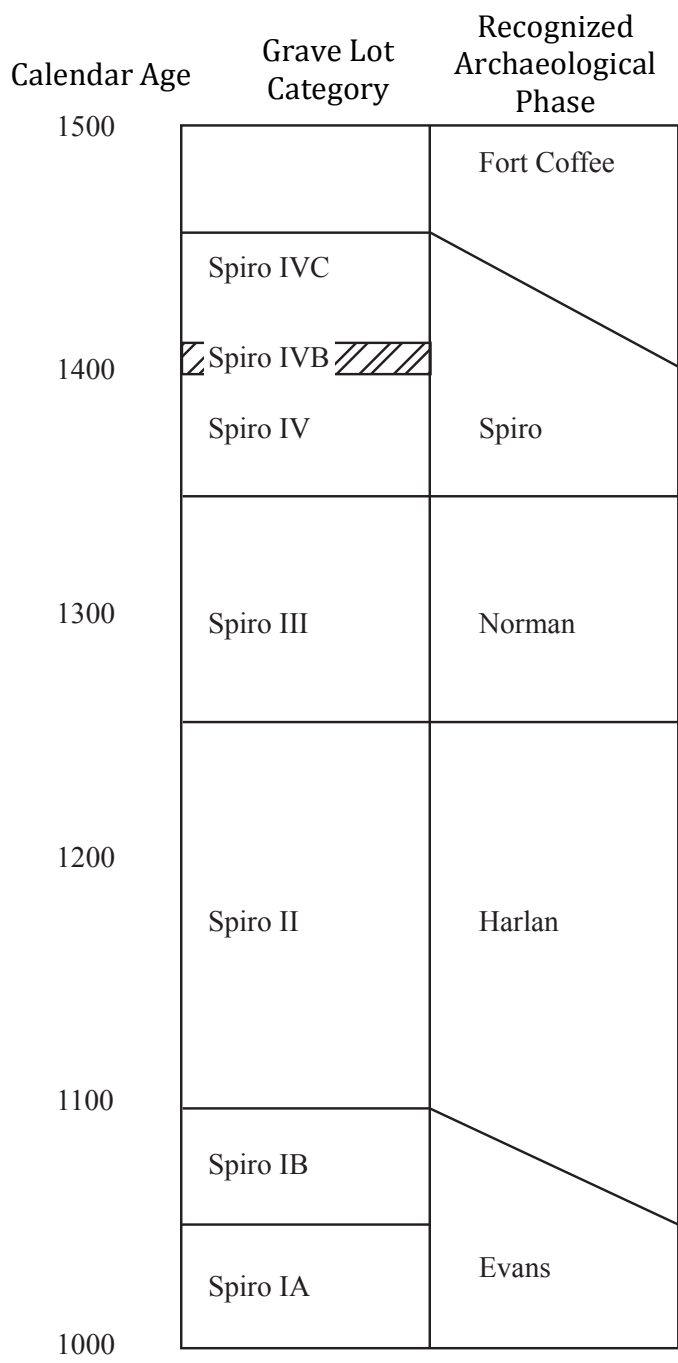


Figure 107. Temporal categories of Spiro grave lots, in conjunction with calendar age and recognized area archaeological phases, redrawn from Brown (1996:161).

Spiro II (approximately A.D. 1100) and the early Spiro IV phase (roughly A.D. 1350). The Spiro IV phase was marked by an increase in the presence of exotic ceramic types (Brown 1996:341). It is difficult to make comparisons regarding temper and form. A much longer span of time is represented by the Spiro ceramics, and a number of vessels were also brought to the site from great distances. General observations using decorative technique, motif, design fields and structure are possible, while specific counts of occurrences and metric observations are not at this point.

Incised, engraved, appliqued and painted ceramics are all present (along with other decorative techniques) at Spiro. The ceramics considered for comparison are primarily incised and engraved. The painted ceramics from Spiro are predominantly solidly painted and do not exhibit any specific motifs. They include the types Poteau Plain, Sanders Plain and Old Town Red. Old Town Red is only represented by two sherds and is distinguished only from Sanders Plain by the shape of its base. Old Town Red has no defined base, while Sanders Plain has a round, flat one (Brown 1996:404).

The Spiro I and II ceramic motifs have little similarity to the motifs represented in the Central Arkansas River Valley assemblages. Encircling lines as elements below the lip of straight-sided bowls are common. The Crockett Curvilinear Incised and Spiro Engraved vessels prominent in the Spiro III and IV grave lots demonstrate spirals and interlocking hooks and scrolls similar to those observed on the later material from the Carden Bottoms vicinity. It is also around this time that the vessels from the Spiro assemblage are observed to have similar relationships between motif placement on the upper and mid body of vessels (usually bottles) and the overall structure that forms an additional motif in superior view. Prior to Brown's Spiro III period, this does not appear to have been a common theme in vessel construction.

Very late period ceramic types such as Hodges Engraved, Carson Red on Buff and Keno Trailed are represented in very small numbers of sherds (two sherds of Hodges Engraved) or are absent entirely at Spiro. However, some of the motifs used later in the Protohistoric period, among these ceramic types, are present in the Spiro assemblage, albeit in different forms and often in different genres of objects. A few of these motifs are discussed below.

The interlocking scroll, concentric circle and nested triangle motifs are all present on ceramics from Spiro. These motifs are ubiquitous in prehistoric artistic design throughout the Southeast, ranging over nearly 1000 years, so therefore any attempt at assigning “meaning” to them could only result in vague, possibly misguided, interpretations. However, as this is a stylistic analysis, and not an iconographic one, understanding the meaning of the images discussed is not necessary. The value of this comparison lies in looking at how the motifs are applied to the surface of the vessels, and how these applications change (or don’t) over time.

Brown identifies a number of instances of variations of the interlocking scroll motif on ceramic vessels primarily on Crockett Curvilinear Incised vessels (1996:359). Some of what he categorizes as interlocking scrolls, are referred to as interlocking hooks in this analysis, as they only curve on one end. The scroll motifs on Spiro pottery tend to occur vertically or in bands encircling the body of a bowl or bottle. The “scrolls” often join onto a central circle (Figure 108) and, again, are more similar to nested hooks or interlocking hooks that are seen on later ceramics. This motif is also present on engraved shell cups from Spiro (Phillips and Brown 1978:259-261) (Figure 109). Interestingly, the motif, when conveyed in engraved shell, more closely approximates the actual interlocking scroll (curved on both ends, interlocking in a repetitive pattern) seen on protohistoric pottery. It still interlocks around a central circle, though.

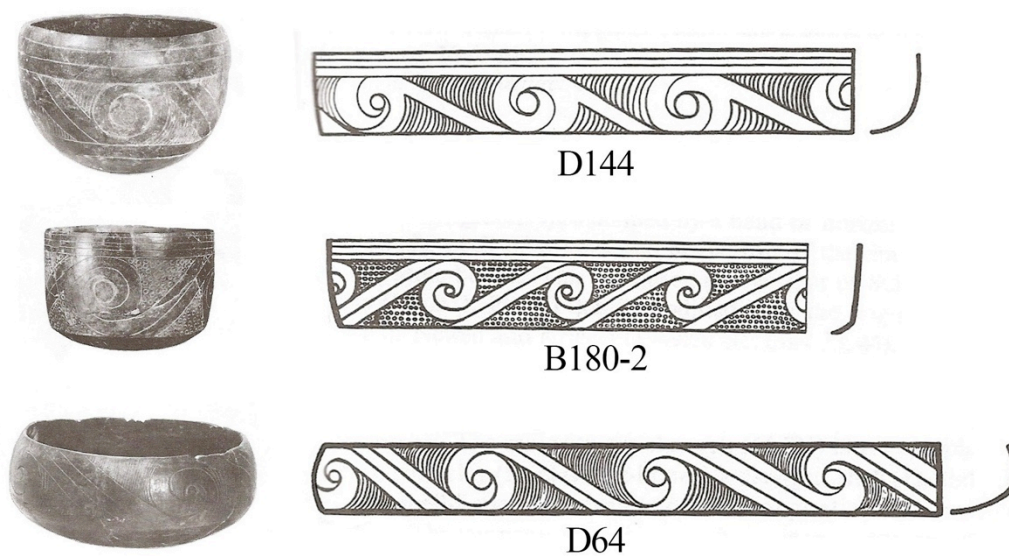
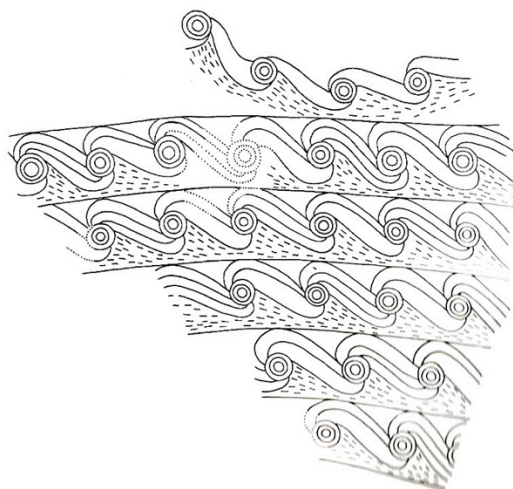


Figure 108. Bowls from Spiro with variations of an interlocking scroll or hook motif, taken from Brown (1996:367-371).

Whole Cup, Meyer Collection, USNM448804



The "Matisse" Cup

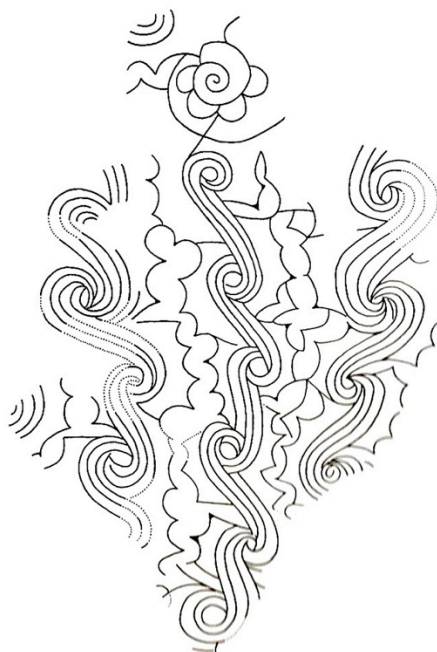
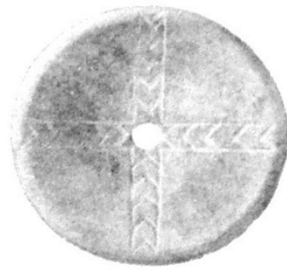


Figure 109. Engraved shell cups with interlocking scroll motifs, Spiro Mounds, taken from Phillips and Brown (1978), plate nos. 259 and 260.

The relationship between this motif and the pulled square motif in the superior view is absent either because of the manner in which the interlocking scroll is applied to the vessel fields or because of the media (shell) that it is used on. It may also be the case that this dynamic between the two motifs is present on some bottles from Spiro, but was not observed in any photographs for this analysis. Even if this is the case, the relationship does not seem to be as significant as it is later in the Central Arkansas River Valley. The pulled or looped square motif is prominent on ear spools from the Spiro site, as is the concentric circle and cross-in-circle motif (Figure 110). On the ears spools, the motifs are depicted in a manner virtually identical to their appearance in rock art and in the superior view on Dardenne Style pottery and other categories of vessels from the Central Arkansas River Valley (Figure 111).

The concentric circle and spiral motifs on Spiro pottery are found primarily on the body fields of vessels (Figure 112). The spiral is not frequently used in the Central Arkansas River Valley pottery, but is present in ceramic and rock art genres within the Dardenne Style. The concentric circle is most commonly observed in the superior or inferior view on ceramics from the Central Arkansas River Valley, usually formed by encircling lines around the upper or lower bodies of bottles and visible in the superior or inferior view. On Spiro vessels it is most commonly visible in the medial or lateral view on bottles (Figure 113). Nested triangles are used much the same way on the earlier vessels from Spiro as they are on vessels later in the Arkansas Valley, but with much less frequency (Figure 114).

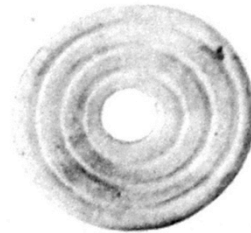
Mineral Springs. The Mineral Springs site is located on Mine Creek, a tributary of the Saline River, in Howard County. It was first documented in 1917 by M.R. Harrington of the Heye Foundation in New York, some years prior to his visit to Carden Bottoms. Harrington



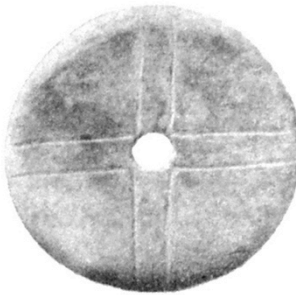
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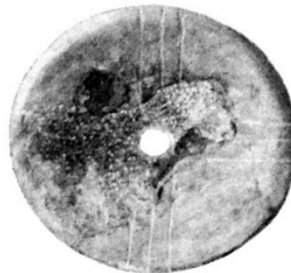
D50



B50-6



B181-1



B165-1



D47



D169a



B51-8



B51-23b

Figure 110. Ear spools from Spiro, showing cross-in-circle, concentric circle and pulled square motifs, taken from Brown (1996:565).

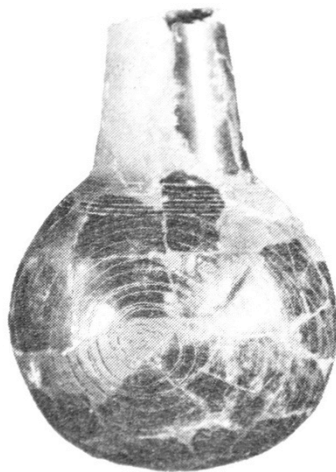


Figure 111. Ceramic motifs and design structure, similar to those found on ear spools from Spiro, 27-11-154 (top), 27-11-212 (bottom left) and 5425.1634 (bottom right), all from Carden Bottoms, University of Arkansas Museum Collections and Gilcrease Museum (5425.1634).



Lf40/859

Figure 112. Bottle with spiral motif, Spiro Mounds, taken from Brown (1996:385).



B51-3



67-266-182

Figure 113. Bottle with concentric circles, Spiro Mounds, taken from Brown (1996:385) and bowl from Yell County, Arkansas, University of Arkansas Museum Collections (67-266-182).



OHS Collections

Figure 114. Nested triangles on rim of a bowl from Spiro, taken from Brown (1996:367).

recorded 11 mounds and two cemetery areas, but the mounds have subsequently been heavily impacted by agriculture (Bohannon 1973; Harrington 1920). The site was excavated in 1962 by National Park Service archaeologist, Charles Bohannon, as part of a larger project prior to the creation of Millwood Reservoir. Mounds six and eight were selected for excavation. One house was excavated in mound eight and 21 burials in mound six (Bohannon 1973). Radiocarbon dates on a charred timber from the house indicate it was constructed during the fourteenth or fifteenth century (Bohannon 1973:70). The ceramic assemblage from the burials reflects this in part. However, it is somewhat problematic. Sherds and vessels from private collections were included in the analysis on a subjective, as needed, basis, rather than as a whole assemblage. They were included to augment sherds or vessels that the author felt were under represented in the assemblage, with no accounting for what may not have been included. Furthermore, the vessel documentation is minimal at best. They are sorted into type varieties that are similar to many of those documented at Spiro. This assemblage was chosen, problems aside, because it does represent a discreet assemblage that was well excavated and has a significant whole vessel

component. It is relatively tightly controlled and has associated radiocarbon dates. The whole vessels from the burials were examined from photographs and drawings within the report for comparison to the Central Arkansas River Valley pottery vessels. Categories of decorative technique, form, motif, design field and structure are visible in most cases for comparison.

Bottles are the most common form represented and they have primarily cylindrical, ovoid or low-waisted body shapes. They are grog and grit tempered and engraving is the dominant decorative technique. The use of concentric circles, interlocking scrolls, triangles and the hourglass motif all bear some consideration for comparison to the Central Arkansas River Valley vessels. As well as these specific motifs, it is also worth noting that many of the bottles from Mineral Springs exhibit a similar relationship between motif placement on the body and in the superior view to many of those from the Arkansas Valley. Concentric circles are present on the body of vessels, similar to those at Spiro, and they are also formed by encircling lines around the upper body of bottles (Figure 115). Triangles are used in similar ways as they are in the Arkansas Valley assemblage, series of repeated nested triangles. However, in the Mineral Springs assemblage they are primarily found on the bodies of jars, often with applied bands. The scroll motif is used vertically on the body of vessels, as well as horizontally and is often separated into panels on the body of the vessel. Interestingly, the pulled square with a circle in the center (as it is almost always represented) is formed in the center of this scroll, regardless of its orientation (Figure 116). This demonstrates a relationship between the two motifs, albeit not one in the same fashion that is exhibited on bottles 200 years later.

Standridge. The Standridge site was excavated through two consecutive seasons of Arkansas Archeological Society training program digs and University of Arkansas field schools in 1975 and 1976. It is located on the Caddo River in Montgomery County. A small mound

with a series of overlapping structures was excavated, along with various pits, one grave and other features. It was a “small mound with a complex depositional history that represented a previously undocumented type of Caddoan settlement in the region,” (Early 1988:1). The site presented an opportunity to examine Caddo habitation patterns in an upland setting, rather than that of the Red or lower Ouachita River valleys that had received archaeological attention from an early date. However, the Standridge site turned out to have a more complicated stratigraphy than anticipated. Researchers were initially looking for a single component site. “The essential building blocks for a regional sequence are well controlled and documented artifact assemblages and chronometric dates tied to them,” (Early 1988:3). The features at the site ranged from Fourche Maline occupation to Mid-Caddo, and complicating interpretation further, Fourche Maline components from an unknown context were used as mound fill. Twenty-six whole



Figure 115. Bottle from the Mineral Springs site, showing presence of concentric circles in the medial, lateral and superior view (Bohannon 1973:27).

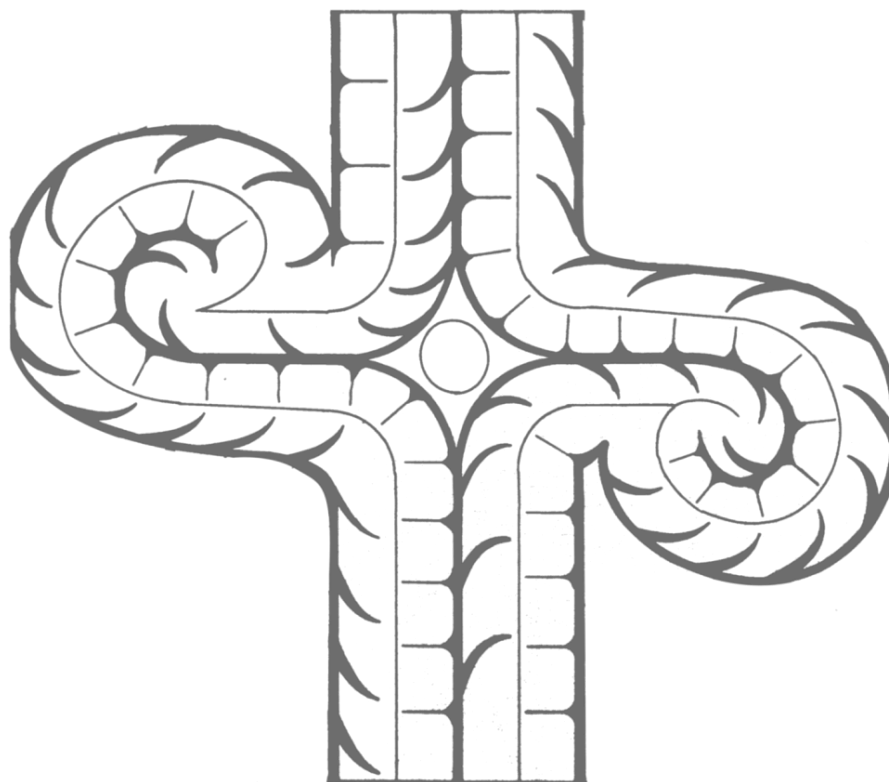


Figure 116. Scroll and pulled square motif in the center from Mineral Springs bottle, drawn from Bohannon (1973).

vessels and 3,903 sherds were recovered in excavations. Seventy percent of the sherds were undecorated, and most were generally less than 5 cm in size, making classification difficult. The sherd assemblage came from both Fourche Maline and Caddo components (Early 1988:61). Twenty-two of the whole vessels came from a single feature, Feature 9. Feature 9 was an asymmetrical burial pit that was excavated through structural features 8 and 18 into the pre-mound Fourche Maline component below. The grave contained remains from three individuals and a number of grave inclusions around the perimeter of the pit, including turtle shell, pottery vessels, shell objects, a marine shell cup and turquoise beads (Early 1988:59-60). The remains in the grave were of two adult females and one adult male. The other four vessels came from two pit features, both dug into the other mound features. One of these pits, Feature 4,

may have been an additional grave, but no evidence of human remains was documented. Three vessels were found within this pit. The remaining whole vessel was from a pit dug into a structure, Feature 12 (Early 1988:45-61).

The Feature 4 vessels included one Woodward Plain jar, one untyped engraved jar and one untyped engraved bowl. The vessel from the other pit feature, Feature 23, is an untyped, punctated jar with four applied, effigy type handles around the rim. The vessels from the Feature 9 burial are considered most heavily in this analysis. The contents of this grave represent a discreet sample - a snapshot of ceramic deposition in this region. It is impossible to say if this deposit is representative of its contemporaries as a whole in this area, however. Its intrusive nature and position at the site, combined with the later temporal placement of the ceramic vessels contained within, suggest it may be representative of a larger “matrix of far-flung external relationships rather than locally made and/or used pottery styles,” (Early 1988:102).

Interestingly, the ceramics from this feature at the Standridge site bear a great deal of similarity in many ways to those from Mineral Springs and Spiro. This reinforces Early’s suggestion that there may have been a system of relationships between contemporary sites in the Arkansas River valley and those in this region. “Later in the site occupation, the contents of the larger burial reflect a change in orientation. Closest links now appear to be to the Arkansas River valley area of eastern Oklahoma and to the Ouachita valley, both the upper Ouachita and middle Ouachita stream drainages,” (Early 1988:102). This “matrix” of relationships in the mid-fourteenth and fifteenth centuries, as represented by the stylistic similarity in the various ceramic assemblages (three of which are included here) provides an ideal compendium for comparison with the later Protohistoric ceramic assemblages of the Central Arkansas River Valley.

All of the whole vessels from Feature 9 had shell temper. Most of the vessels from the feature were not identified according to existing types or varieties. Table 20 provides an overview of the whole vessels found in Feature 9. Nine of the vessels are bottles. Five are carinated bowls and seven are jars. Within this small assemblage, there is a preference for straight, flared rims on jars and bowls with decorative techniques of incised or punctated encircling lines (Figure 117). The body shape is most commonly globular, and overall similar to those of the Central Arkansas River Valley. Bottle necks are distinct from the body and straight, generally with short, straight, out slanted rims (Figure 118).

Keno Trailed *var. Curtis* is the most common vessel identified by type and variety in this grave lot. There are five of these bottles, each with identical forms, motifs and design structures. The bottles have globular bodies, tall, straight necks, and have been burnished or polished. Trailed designs of nested arcs, repeated in four sequences, surround the upper body below the neck. Inverted nested arcs extend upward from the lower body, again repeated four times. The



Figure 117. Vessels from the Standridge site with straight rims and lines of encircling decoration, taken from Early (1988).

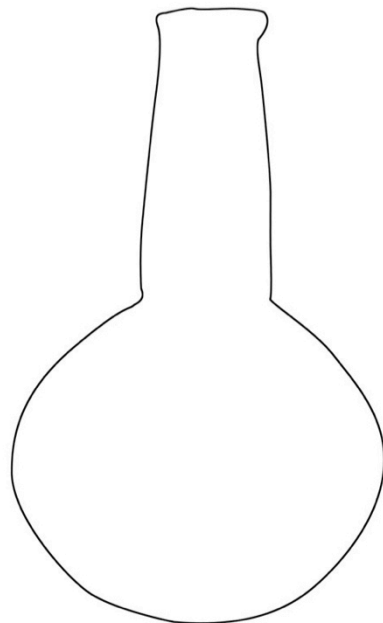


Figure 118. Profile of typical Standridge bottle with straight neck and globular body.

Feature 9 Whole Vessels			
Form	Type/Variety	Description	Count
Bottle	Ashdown Engraved	Engraved, cross-hatched pattern of cross-in-circle, encircling bands around upper body, globular body, straight neck	2
Jar	Foster Trailed Incised	Encircling punctated lines around rim, globular body with trailed concentric circles in groups on body	1
Bottle	Keno Trailed <i>var. Curtis</i>	New Variety, globular body, straight necks, wide dry line incising, nested arcs and festoons	5
Carinated Bowl	Un-typed Group 1	Engraved linear design on rim, grog in temper as well	2
Jar	Un-typed Group 2	Thickened ridges on rim with punctated lines pressed into them, encircling rim	2
Jar	Un-typed Group 3	Encircling lines of punctations on rim, grog and shell temper	2
Carinated Bowl	Un-typed Group 4	Nested arcs and hourglass motif on carinated shoulder, rim flares out from that, ticked line designs, encircling lines around rim, grog and shell	2
Bottle	Un-typed Group 5	Engraved, ticked line concentric circles in groups around body, cross-hatched triangles on upper body, sub-globular body, straight neck	1
Carinated Bowl	Un-typed Group 6	Nested arcs and hourglass motifs engraved on rim, grog and shell temper	1
Bottle	Un-typed Group 7	Engraved concentric circles in groups around body, forms pulled square in superior, shell temper	1
Jar	Woodward Plain	Globular jars, flat circular bases, short flaring rims	2
Bowl	Poteau Plain	Restricted bowl, slipped surface, distinct base	1

Table 20. Standridge Feature 9 whole vessels.

apexes of these two, oppositional sets of arc meet at the mid body of the vessel, leaving hollow oval voids. Similar vessels have been found in the southern Ouachita Mountains, but as Early notes: “The simplicity of design and generally wide spacing between lines appears characteristic of Keno vessels in the Middle Ouachita region and may have temporal as well as distributional significance,” (1988:79).

Recognizing that vessels from a burial context may not be reflective of a regional ceramic assemblage as a whole, this grave lot still warrants comparative consideration. The bottles within this assemblage demonstrate the same relationship between motif placement and

design structure that is seen in the Central Arkansas River Valley. Several of the motifs are also the same as or similar to those occurring in the later assemblage as well. Again, the pulled square and concentric circle motifs are prevalent. The pulled squares are formed in the superior view on the Keno Trailed vessels using the nested arcs in the medial and lateral views (Figure 119). Another bottle (un-typed group 5) has four sets of concentric circles (four circles in each set) equally spaced around the body of the vessel. Encircling lines around the upper body/neck of the vessel mimic this motif, using the orifice of the vessel to form the central circle (Figure 120). The cross-in-circle motif is present in the medial and lateral view on two bottles, whereas it is most common in the superior or inferior view in the Central Arkansas River Valley assemblage. One vessel in this grave lot is unique. It is a jar with a globular body and tall, flaring rim. The body and rim of the vessel have complex engraved designs encircling them. “The maker of this vessel appears to have violated some cultural rules by combining a burnished surface and complex engraved decoration with a vessel form ordinarily bearing punctate or incised coarse ware decorative patterns,” (Early 1988:88). The motif on the body of this vessel is similar to those observed on the Mineral Springs bottles, scrolls that interlock or join around a central circle.

The vessels from Spiro, Mineral Springs and the Standridge site appear to be part of a set of interrelated networks or “far flung ties,” that span the Red River drainage, the Ouachita Mountains and the Arkansas Valley. It remains unclear how, or even if, these relationships extend to the Mississippi Valley and other drainages to the east, but future work assembling comparative corpuses of material from that region may help clarify connections. All three of these earlier sites have components that are roughly 200 years older than the single component occupation represented at Carden Bottoms. The ceramic components from all four of these sites



Figure 119. Keno Trailed bottles from the Standridge site, nested arc motif in medial and lateral views, nested, pulled square in superior, taken from Early (1988:78).



Figure 120. Bottle from Standridge, showing concentric circle motif in medial, lateral and superior views, taken from Early (1988:84).

have motifs that include concentric circles, triangles, interlocking scrolls and pulled squares. Taken at face value, these motifs are so general in nature and so widespread across the Southeast, that little can be said of interpretive value; but when the assemblages are considered regionally, with regard to execution and overall vessel design structure, nuances that inform specific cultural artistic traditions emerge. It appears that the potters in the Arkansas Valley drew on these 200 year-old traditions, at least with regard to the motifs discussed above and their placement on vessels.

Contemporary and Subsequent Ceramic Comparisons

Hardman. The Hardman site is located on Saline Bayou in the Ouachita River drainage. It was the location of a salt processing works during late prehistoric times. Occupation at the site appears to have been primarily focused during the terminal Mid-Ouachita phase (late fifteenth century) and Protohistoric seventeenth century. It is part of a pattern of dispersed, “physically separate households that in terms of surface evidence today, may appear as small, discreet and totally separate sites,” (Early 1993b:2). This settlement pattern of dispersed, related farmsteads centered around more centralized economic, social and ritual centers, seems to have been common in river drainages occupied by Caddo communities in late prehistoric and Protohistoric times.

The site was partially excavated by the Arkansas Archeological Survey prior to a bridge replacement by the Arkansas Highway and Transportation Department in 1987. Only the portion of the site in the right of way of the bridge was stripped and excavated, so the archaeological picture of occupation at the Hardman site is likely far from complete. Two houses were identified, along with 40 pits, possible areas of fencing and arcs of postmolds that “may be remnants of houses or storage buildings,” (Williams 1993:42). The construction date of the two

houses is believed to have been after A.D. 1600. Seventeen burials were excavated in the right of way area, and analysis of the vessels associated with them supports “other sources of information suggesting the site was occupied primarily in the fifteenth and late seventeenth centuries,” (Williams 1993:48). Sherds from salt pans were by far the most common type of sherd found on the site. They were from vessels used in reducing and processing salt into useable and tradable forms from the Saline Bayou. A total of 28,864 sherds were found and 24,572 were from salt pans. Of the remaining sherds, 3,502 were shell tempered, 763 grog, 18 grog and shell, 1 bone and 8 grit (Early 1993b:98). The decorated sherds were predominantly too small to identify much decoration on. “Only a very small number of the decorated sherds could be typed, and most specimens were sortable only to the level of major decorative class,” (Early 1993b:66).

One burial, burial 18, is from the terminal Mid-Ouachita phase (late fifteenth/early sixteenth century), an earlier feature than the other components excavated during the project. The grave contained the remains of three adult males, each of which had been decapitated. Two vessels (one bottle and one carinated bowl) had been placed at the location of where the individual’s skulls should have been. Fourteen vessels were included with these burials. They are more similar in form, temper and decoration to vessels from Mineral Springs and Standridge than they are to the ones from later graves at the Hardman site. Six carinated bowls with patterns of encircling lines and nested arcs, forming hourglass and cross-hatched fields are the most common kinds of vessels in this grave lot. There are also three bottles in the assemblage. One is almost identical to a bottle with engraved concentric circles from the Standridge site (Figure 121). Four straight-sided bowls with engraved lines encircling the vessel below the lip are also part of this grave lot.



Hardman



Standridge

Figure 121. Engraved bottles with concentric circle motifs, Hardman (Earl 1993b:82) and Standridge (Early 1988:84).

The remaining whole vessels from burials at the Hardman site represent a typical Protohistoric Caddo assemblage for this region. A number of Hodges Engraved bottles and bowls, as well as Karnack Brushed-Incised jars and De Roche Incised jars were found in the other burials. One Keno Trailed *var. Red Hill* bottle and one Old Town Red *var. Beaverdam* were also documented in burials.

The bottle body shapes are almost exclusively globular. Shell tempering is predominant. Hodges Engraved *var. Hodges* bottles frequently feature an interlocking scroll or hook motif, often stacked on the upper and lower body of a vessel. The scrolls or hooks are often formed from cross-hatched fields and an opposing negative space, with an intervening ticked line (Figure 122). The placement of motifs and their relationship to complementing motifs in the superior view follows the same pattern established for bottles in the Central Arkansas River Valley assemblage. Other vessels from the Hardman site also demonstrate this relationship between motif, design field and structure (Figure 123). Two shallow convex bowls with straight outflaring rims were also found in graves at Hardman. One is plain and one has incised nested arcs around the body. This shape of bowl is the most common shape for bowls in the Arkansas Valley. One bowl, virtually identical to the plain one, was found on the floor of House 3 at Carden Bottoms.

Connections with the Arkansas River valley were noted among the vessels in terms of type and variety as well. The nested or rotated hook motif is found on bottles from Carden Bottoms and Kinkead-Mainard. One Keno Trailed bottle with this motif was documented from the Hardman site. Early (1993b:94-95) attributes this motif, as it is placed on the body of vessels in medial and lateral view, often with a pedestal base, to possibly having its origin in the Arkansas River Valley. She also notes occurrences of this same motif on vessels from early



Figure 122. Hodges Engraved var. *Hodges* bottle, Hardman site, showing interlocking hooks (Early 1993b:73).



Figure 123. Hodges Engraved var. *Hodges* bowl with drawing of exterior in inferior view (Early ed. 1993b:73).

historic assemblages in the Ouachita River valley and at the Cedar Grove site. This seems to be a motif that appears in the Protohistoric or early historic period on bottles and sometimes shallow dishes or bowls. It has a thin distribution across a wide area between the Arkansas, Red and lower Ouachita River valleys, and on pedestaled bottles, it “has both engraved and incised versions of the same design that were probably contemporary,” (Early 1993b:95). The single Old Town Red effigy bowl from Hardman has an anthropomorph rim rider opposite a tabular tail. The anthropomorph’s head has a flattened top and it is virtually identical to some bowls documented from the Carden Bottoms site (Figure 124).

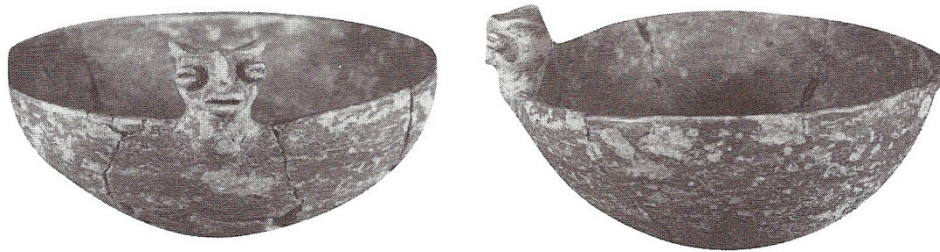


Figure 124. Old Town Red *var. Beaverdam* bowl, Hardman site (Early 1993b:75).

Cedar Grove. The Cedar Grove site is located in the Great Bend region of the Red River in Lafayette County, Arkansas. The site was discovered during construction of a field revetment along the Red River by the U.S. Army Corps of Engineers. An historic cemetery was found to overlay the Protohistoric Caddo settlement, and both had been covered by deposited alluvium after the early twentieth century. Upon discovery of the cultural features, construction was stopped and the Arkansas Archeological Survey was contracted to conduct testing to determine the eligibility of the location for the National Register of Historic Places. Testing determined that the site was eligible and subsequent mitigation excavation was conducted between October 1980 and January 1981 (Trubowitz 1984:1-3).

The primary Caddo occupation at the Cedar Grove site was determined to have been a small hamlet or series of farmsteads occupied between A.D. 1650 and A.D. 1750, during the Caddo V period. A smaller, seemingly isolated Caddo III (A.D. 1400-1500) component was also documented on the eastern edge of the area of impact of the revetment. A small number of sherds were recovered from this component, but they were analyzed separately and not included in the main body of the final project report (Schambach and Miller 1984:109). Therefore, they are also not included in this analysis. Three structures, or likely structures, were excavated during mitigation. The structures were round with significant daub concentrations in and around them. They were noted to be similar to those on the Teran map of early historic Caddo settlement in the Red River valley (Trubowitz 1984:92-95). A number of small pit features were also excavated. Sixteen Caddo burials were excavated from in and around the structures. The vessels from those burials form the assemblage discussed and compared below.

Sixty-seven whole or reconstructed vessels were found with these burials in 12 grave lots. Other grave goods included conch shell cups, shell beads, pipes and lithic tools, as well as an eagle in one burial. Temper was observed in 9,262 sherds and in all coarse ware whole vessels. Temper was not observed in unbroken fine ware whole vessels. Of the observed temper, 86% was found to be shell. This is characteristic of other Protohistoric and early historic Caddo ceramic assemblages recorded in the Red River valley and Titus phase sites in east Texas (Perttula et al. 2011). Recycling vessels from mortuary, ritual or other contexts for inclusion in graves was also documented in the late Caddo graves at Cedar Grove. This is indicated by use wear and residue on the surface of vessels. Schambach and Miller note that recycling of Caddo vessels is rare, or at least confirmed observation of the practice is. However, it appears to be a practice that is virtually absent in the archaeological record prior to the Caddo V, or Protohistoric

period. Explanations for the practice could be numerous, but Schambach and Miller favor one in particular: “Of the several possible explanations for this, the one we favor at the moment is that this is evidence of the demographic stress the Caddo were under around A.D. 1700. European diseases were rife, populations were dropping and there was a shortage of potters and pots,” (1984:112). The skeletal remains from the burials at Cedar Grove also indicated a relatively high rate of infection in the population that may be “consistent with increased sociocultural stress as indicated by the presence of reused mortuary ceramics and/or the possibility of disease stress caused by European diseases,” (Rose 1984:241). As most highly infectious diseases of European origin do not leave distinctive traces on skeletal remains, this remains uncertain. Burial 7, a young adult male, was interred with an assemblage of grave goods composed entirely of recycled vessels. Because of the lack of provenience for most of the ceramics from the Central Arkansas River Valley, it is difficult to compare the occurrence of this practice there. However, when examining pottery from the turbulent Protohistoric period, it is something to bear in mind for future examinations.

Two ceramic series were identified in the Cedar Grove assemblage: an “adult series,” and a “child series,” (Schambach and Miller 1984:112). The child series consisted of vessels from the graves of individuals ten years of age or less. Most of the vessels of this series are very small or “miniature, meaning they are much too small for normal use,” (Schambach and Miller 1984:112). These miniature vessels do not always follow the same stylistic norms for decoration, temper and form as their larger adult series counterparts. This is a trend that is also observed in the Arkansas River valley assemblage. A number of “miniature” vessels are found in the assemblage, and many of them indicate that they were looted from a child’s grave on the vessel (Figures 125 and 126).



Figure 125. Group of “miniature” vessels from the Central Arkansas River Valley, Gilcrease Museum.



Figure 126. “Miniature” vessel from Carden Bottoms, “Child’s Grave,” written on base, University of Arkansas Museum Collections (27-11-213).

Schambach and Miller single out two types (within the type/variety system) from the Cedar Grove mortuary assemblage they consider markers for Protohistoric Caddo occupation in the region: Keno Trailed (several varieties) and Natchitoches Engraved. Both of these have some relevance in the Central Arkansas River Valley, especially Keno Trailed as previously discussed. Schambach and Miller consider Natchitoches Engraved to be “the single best ‘full historic’ or late Caddo V period marker type in the Caddoan ceramic assemblage,” (1984:124). They consider this type and Hodges Engraved to be so stylistically similar as to likely be variants of one type. Natchitoches Engraved vessels are shell tempered, again a late characteristic in Caddo ceramics. “It seems to us that the very latest vessels, those that turn up on full historic sites with abundant trade goods and that clearly date to the sunset years of the Caddo ceramic tradition, generally have very coarse, easily visible shell temper, (you can usually see the shell in the photographs of the whole pots),” (Schambach and Miller 1984:124) (Figure 127). The analysis of Central Arkansas River Valley ceramics did not identify significant numbers of Natchitoches Engraved, but over 40 vessels were categorized as Natchitoches or Hodges Engraved. They share similar engraved motifs and design structures and have shell tempering, sometimes coarse shell. The exact nature of the relationship between trailed and engraved shell tempered ware in the Protohistoric period in the region between the Arkansas Valley and the Red River is still uncertain. Whatever the relationship between the variants, it does appear that there was a general trend of increased use of shell tempering in forms and styles of vessels which had previously been constructed according to a different set of guidelines.

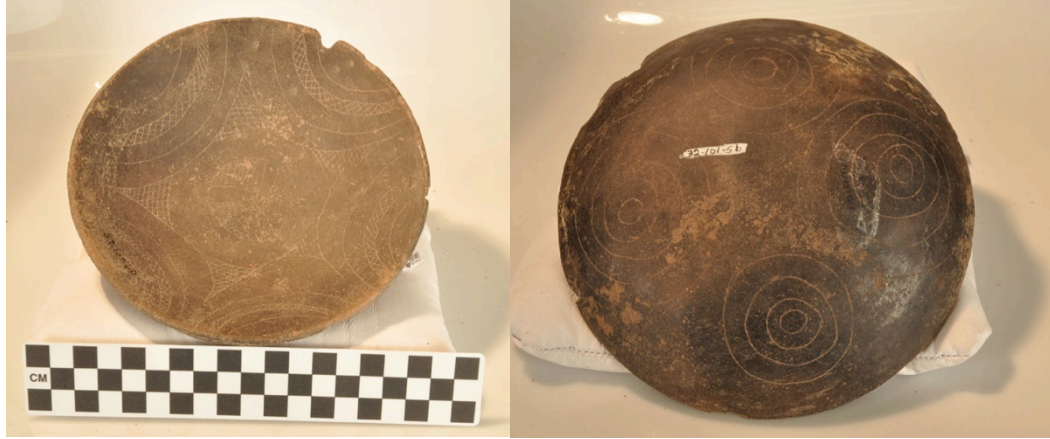
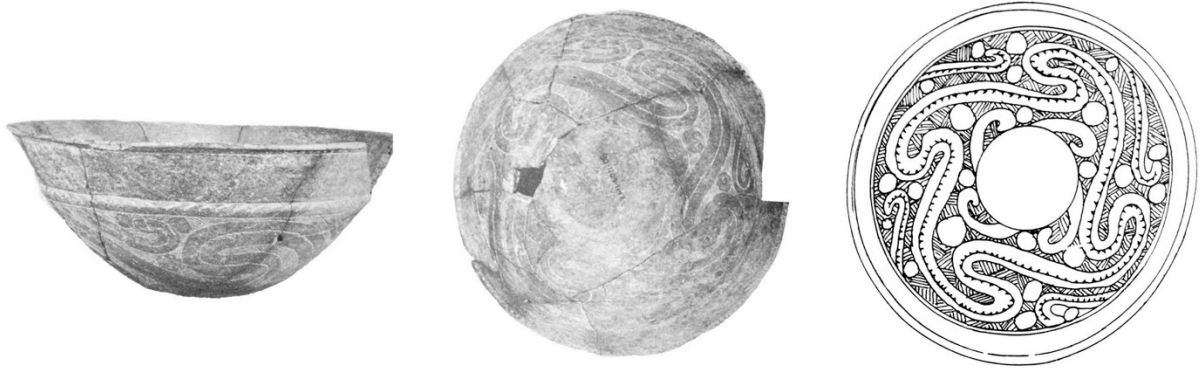


Figure 127. Natchitoches Engraved bowl, Kinkead-Mainard, University of Arkansas Museum Collections (32-101-5b).

Body shapes among the Cedar Grove vessels are generally globular. Bottle necks are frequently short and somewhat bulbous. Rims are straight and out slanted. Convex bowls with these rims are also common in the assemblage. The same relationship between motif placement in field and structure that is present in the Hardman and Central Arkansas River Valley assemblages is also present in the Cedar Grove assemblage. Common motifs include interlocking hooks, nested arcs, interlocking scrolls, pulled squares and concentric circles. The interlocking scrolls are sometimes stacked on the upper and lower body, just as in the Hardman assemblage and form pulled squares in the superior or inferior view (Figure 128). The placement of motifs on the base or bottom of vessels is more common in the Cedar Grove assemblage than in the others examined. Again, the general trend when this assemblage is compared to the Central Arkansas River Valley assemblage is the use of the same motifs, with the same relationship between placement and design structure, but using different techniques that necessitate some simplification of execution in the Arkansas Valley.



80-1209-1212



80-1209-1132



80-1209-824



80-1209-696

Figure 128. Vessels from Cedar Grove demonstrating the relationship between motifs, fields and overall design structure (Schambach and Miller 1984).

Goldsmith Oliver 2. The Goldsmith Oliver 2 site is located near a series of late prehistoric and Protohistoric sites on the Arkansas River in Pulaski County, including Isgrig, Blanche Martin and the Thibault site (Chapter 3). It was excavated by the Arkansas Archeological Survey as a mitigation project for construction of a radar tower at Adams Field, the Little Rock airport. Only the portion of the site that was to be impacted by construction was excavated in July and August of 1987. Through a combination of mechanical stripping of the plow zone and test units, 73 post molds, 42 pits and 16 burial features were located and excavated during the mitigation (Jeter et al. 1990). Twenty whole or reconstructed vessels were found within the burials, and 3,275 sherds were recovered from features at the site during the mitigation. An additional 502 sherds and partial vessels (2) were also found during the testing phase of the project. Glass and alloy metal beads were also found at Goldsmith Oliver 2. Overall the artifacts from Goldsmith Oliver 2 are similar to other Protohistoric assemblages in the Arkansas Valley, such as Kinkead-Mainard, Carden Bottoms and Menard.

Within the whole vessel assemblage, 12 vessels are bowls. Seven of those are plain, and the most common shape is the convex bowl with a straight, out slanted rim, also the most common bowl from elsewhere in the Protohistoric Arkansas Valley. Two of the 12 bowls are considered to be “miniature,” possibly indicating a similar trend as that observed at Cedar Grove with the burial assemblages of children. The assemblage included two bowls with red interior and rim, one bowl with filled triangular incising on the rim and one with curvilinear incising on the upper body, all with the same shape (convex body, straight out slanted rim). Three plain jars are also included in the assemblage, and they are similar in shape and form to those documented in the Central Arkansas River Valley assemblage. Three red painted bottles are present in the burial assemblage from Goldsmith Oliver 2, as well as one polychrome (red, white and black)

bottle. One red painted effigy bowl has an unidentified animal effigy extending off of the rim, opposite a tabular tail. It is the same kind of effigy vessel documented in the Central Arkansas River Valley assemblage, as are the painted bottles. The body shape on all vessels is globular. In some aspects, the ceramic assemblage from Goldsmith Oliver 2 is virtually identical to the larger Central Arkansas valley assemblage. However, two noticeable differences emerge: the lack of red on buff painted vessels and the lack of trailed bottle fragments. “No Keno Trailed vessels were found at Goldsmith Oliver 2 and no sherds from this site have yet been identified as this type,” (Jeter and Mintz 1990:271). This may have some significance considering the ubiquitous spread of the trailed bottles in the Protohistoric period to the west and south of the Goldsmith Oliver site. Jeter also notes that since Palmer’s discovery of a single Keno Trailed bottle at the Menard site, none have been found there since (1990:272). He further questions the assignment of trailed bottles from Kinkead-Mainard and Carden Bottoms to the Keno Trailed type, suggesting instead that they may be better categorized as Winterville Incised. Only two engraved sherds and no engraved vessels were found at Goldsmith Oliver 2, departing from what was observed in the assemblages both from farther up the river and downriver at the Greer site. Jars and bowls with triangular motifs incised on the rim, neck or upper body, categorized as Barton Incised, are the most common type of decorated sherd in the Goldsmith Oliver 2 assemblage. It is also one of the most common motifs documented on the sherds from Carden Bottoms.

Categorization aside, the most significant details apparent when Goldsmith Oliver 2 is compared to the overall Central Arkansas River Valley whole vessel assemblage is the absence of two of the most common methods of decoration: red motifs painted onto buff vessels and trailed, wide line incising on bottles. This seeming departure in ceramic production at the

Goldsmith Oliver 2 site may or may not prove to be significant in the long run. It could be the result of differences that occur due to differential sampling between materials excavated and those looted and amassed into museum collections. This is a dilemma for future research to unravel.

Summary: Comparative Style and the Leitmotif in Regional Artwork

The comparisons presented above suggest that the producers of ceramics and rock art in the Central Arkansas River Valley drew from motifs that were part of a matrix of shared artistic and stylistic ideas that spanned parts of the Ouachita Mountains and western Arkansas River Valley in late prehistoric times. Use of these same motifs carries into the Protohistoric and early historic period from the Arkansas Valley to the Great Bend of the Red River and beyond. More documentation, research and chronological understanding is necessary to fully compare the Central Arkansas River Valley ceramic assemblage to those in the Mississippi River Valley and St. Francis River Valley. The ceramic assemblages from the lower Arkansas River especially need to be documented fully and included in this comparison. There are also cultural phases and ceramic traditions farther up the Arkansas River, such as the Spinach Patch locality and the Ft. Coffee phase, which may provide comparative insight as well.

The motifs in question (interlocking scrolls and hooks, pulled squares, concentric circles, cross-in-circle and triangles) don't lend themselves to much iconographic interpretation regarding meaning. But the pattern of use over the span of three hundred years, as well as the continued usage of specific motifs in a complimentary relationship via the structure of a vessel, suggests that some motifs represented underlying, recurring themes, or "leitmotifs," in the communities that created the images, outside of the cultural categories of identity or ethnicity (Figure 129). These leitmotifs extend far and wide in the late prehistoric and Protohistoric

period, but detecting subtle changes in the application and use, via a careful stylistic analysis and comparison, reveals micro-regional shifts in stylistic patterns governing their depiction that allow further interpretation and speculation regarding the role of art and imagery in larger, dynamic categories of social structure and community construction at the dawn of history.



Figure 129. Leitmotifs on vessels in the Central Arkansas River Valley assemblage.

CHAPTER SEVEN: POTTERY, IMAGERY AND AGENCY IN A LIMINAL WORLD

The preceding chapters have described the history of the Central Arkansas River Valley and outlined the stylistic picture of the protohistoric pottery tradition of the area, as well as aspects of its relationship with its neighbors in space and time. Defining the Dardenne Style for the Carden Bottoms locality highlights the relationship between motifs, media and genres that artists in the region played with from the late prehistoric period into early historic times. This analysis does not, however, venture to explain what any of these images *mean*, or meant, to the individuals and communities that made and viewed them. This necessitates a shift from the formal categories, thus far considered, to more thematic considerations of material objects. Chapter six began this shift with its focus on motifs within various assemblages. However, the motifs were still identified and compared normatively, as a category of formal variation. The previous characterization of stylistic variability in the region is archaeologically sound, but what does it say about the people, communities, social structures and processes that created the pottery and rock art discussed? Anthropology, or the interpretation of human behavior, culture and social interaction, challenges us to push the examination farther, into the realm of interpreting or explaining the variability within the data and extrapolating what it signifies about the human behavior, culture or social interaction. Iconography has typically been used to interpret prehistoric imagery and art. Modern iconography has utilized ideas from the fields of semiotics, linguistics and art history in its interpretation, and has drawn heavily from the work of Erwin Panofsky (1939). Panofsky presented a systematic, stratified method of interpreting visual art: 1) primary or natural subject matter, 2) iconography and 3) iconology. Iconography interprets “secondary” or “conventional” subject matter using typical cultural knowledge of subject matter to assign meaning. Iconology, or intrinsic meaning, pushes further to interpret the meaning of

artwork and the imagery it may be composed of within layers of the cultural and historic environment that artists and viewers may have been familiar with (Panofsky 1939:3-17). The combination of various paradigms and interpretive techniques has been applied in Southeastern archaeology in a number of ways over the decades, with varying degrees of analytic rigor and interpretive success. Recently iconographic investigations have focused on the material objects and artwork of the late prehistoric Southeast, referred to as the Southeastern Ceremonial Complex and, more recently the Mississippian Ideological Interaction Sphere (Knight 2006, 2013; Lankford et al. eds. 2011; Reilly and Garber eds. 2007). Sorting through the various methodologies and literature associated with iconographic analysis is still daunting. As Knight laments:

“In iconographic research on archaeological materials, the division of labor between those whose academic training lies in the field of art history and those trained in the anthropological tradition has not been kind to students who would wander into this terrain for the first time. The literature is unusually scattered. There is not only a lack of agreement as to procedures but also a lack of any real consensus on the meanings of even a basic vocabulary: ‘themes,’ ‘motifs,’ ‘symbols,’ and so forth,” (2013:3).

The material from the Central Arkansas River Valley should be employed to help interpret what was happening socially and culturally at this time, at sites like Carden Bottoms, that manifested itself in pottery and rock art. This requires thematic considerations. This analysis does not strictly follow the patterns set by fellow researchers embarking on iconographic analysis of similar materials. I focus on identifying potential categories of social structure through their manifestation in material objects and images. These objects and images have inherent relationships between themselves, past iterations, their artists and viewers that includes human and object agency. Understanding these manifestations, relationships and the

role that agency plays in the dynamic, further illustrates the change in social structure and process during the liminal protohistoric period.

Agency and Practice Theory in a Changing World

Investigation of the relationship between sociocultural structure, phenomena and material culture stems from relatively recent paradigms of habitus and practice theory, and the role that agency plays in allowing individuals and groups to negotiate, moderate and enact change in social structure. Practice theory and agency have roots in the early twentieth-century paradigms of functionalism and structuralism. These subsequently stem from the work of Emile Durkheim and Claude Levi-Strauss and a focus of philosophers, scientists, sociologists and linguists to classify and categorize the basic building blocks and system of construction of their various fields of study. Structuralism, in its most basic synthesis, is the notion that there is an overarching structure to culture that guides human behavior (Levi-Strauss 1969 [1949]). It stresses the importance of the system, “as contrasted with the elements that compose it,” (Giddens 1979:9). This notion of an over arching structure forms the backbone of practice theory, and subsequent iterations of structural change and discussions of the role of agency in such change (Giddens 1979; Joyce and Lopiparo 2005).

Pierre Bourdieu is largely credited with elucidating the dynamic between individual actions and responses and the larger social structure, the model of practice theory. Within Bourdieu’s framework, this dynamic is strictly immaterial; he never associates or incorporates material objects within the dialectic. He characterizes practice as “the site of the dialectic of the *opus operatum* [action taken] and the *modus operandi* [way of acting/doing]; of the objectified products and the incorporated products of historical practice; of structures and *habitus*,” (1977:52). The *habitus*, in Bourdieu’s dynamic acts as “a system of cognitive and motivating

structures,” “procedures to follow, paths to take,” that constitutes the practical world, or the state of everyday existence, interpretation and interaction (Bourdieu 1977:53). He further states:

“The conditionings associated with a particular class of conditions of existence produce *habitus*, systems of durable, transposable dispositions, structured structures predisposed to function as structuring structures, that is, as principles which generate and organize practices and representations that can be objectively adapted to their outcomes without presupposing a conscious aiming at ends or an express mastery of the operations necessary in order to attain them,” (1977:53).

Habitus is informed by history and “produces individual and collective practices,” which in turn, form more history, “in accordance with the schemes generated by history,” (Bourdieu 1977:54). Habitus “ensures the active presence of past experiences, which, deposited in each organism in the form of schemes of perception, thought and action, tend to guarantee the ‘correctness’ of practices and their constancy over time, more reliably than all formal rules and explicit norms,” (Bourdieu 1977:54). This interplay between habitus and structure, while serving as a set of guidelines that are simultaneously followed and generated by the participants within the structure, forms the context from which Anthony Giddens defines the process of structuration. Structuration addresses the process of change in social structure, and is critical in an interpretive framework for analysis of the Central Arkansas River Valley. It is outlined below, but first, as it is material culture and its role in social dynamics that is of primary concern, the relationship between objects and sociocultural phenomena must be examined.

Art and Sociocultural Phenomena, Material Manifestations

The work of Daniel Miller (1985) and Nigel Barley (1983, 1994) provides examples from which I construct an analytic framework linking objects or imagery, their use and other sociocultural phenomena. In order to use material objects, their remains, or images to interpret sociocultural processes during this turbulent time, it is first necessary to demonstrate the links between material objects and these larger structuring phenomena. Each of the above authors

exemplifies such an approach. The work of Daniel Miller provides a robust theoretical and methodological framework that underpins his examination of the relationship between pottery production and categories of social structure among the Dangwara potters in a village in central India. Nigel Barley draws parallels between modes and motifs on the ceramic vessels of the Dowayo people of Caemeroon and the use of the same motifs in other genres and domains of social production and symbolism.

Nigel Barley's work among the Dowayos of north Cameroon examines the role of images/objects as symbols, considering "symbolism as a punctuation of culture into domains as a system of similar patterns," (1983:21). This is particularly useful for examining images at the motif level within this analysis. Drawing from the work of Saussure (1974) and Victor Turner (1967), he suggests that symbols are more than meaningful. They are motivated, both within the semiotic structure of which they are a part – in the sense of an analogy, and externally via their use in the "world of sense qualities and encyclopedic knowledge in an unstructured form," (Barley 1983:22, citing Hays 1970). In other words, the representative power and understanding of a particular symbol is influenced by the linguistic like framework that it originates in, as well as by the nebulous, vast milieu of understanding and subsequent reference of view/users/producers within such a semiotic system. Barley examines motifs as they are used on pottery, in tattoos, houses and hair as they appear in multiple social categories of objects. This is similar to the concept of leitmotif outlined in chapter six and demonstrated within the Central Arkansas River Valley pottery assemblage. Barley, with the examples from the Dowayo villages, is able to extend the application of this motif and its significance into other cultural categories and ceremony. Drawing on the correlation between motifs and thematic dialectics such as open/closed, male/female, juvenile/adult, etc., and their symbolic motif counterparts, he

is able to demonstrate the use of a “theme, like onomatopoeia, again an image derived from poetics rather than linguistics proper,” (1983:31). Themes are present in stories, myths and riddles as well as in their counterparts in imagery. He uses the following Dowayo riddle as an illustration: “I have a slave who does everything for me, in dry season and wet season. But when I come home, I throw him outside. The rain beats down on him, the sun burns him. But he says nothing. What is it?” The answer is a hoe. Barley extrapolates: “The riddle works by describing an inanimate tool as if it were the animate agent wielding it, i.e. it restructures our normal set of classifications and creates a mediating category that is neither hoe nor slave, but simultaneously both or neither,” (1983:38). The power of motifs/images that embody connotations from multiple categories (seemingly disparate ones, to the Western mind) “lies precisely in their ability to maintain several simultaneous references without being clearly reducible to any one,” (Barley 1983:38). This suggests that the very nature of symbolic systems relies on repetition and motivates replication. He applies this in a subsequent study of Dowayo pottery, linking pottery manufacture and its symbolic, metaphoric and linguistic role in Africa to a “dominant concern with non-material forces,” as they’re localized in material bodies as conduits or containers (Barley 1994:151). Barley’s identification of the correlation of motifs across media and their symbolic synchronicity is applicable to the analysis of Central Arkansas River Valley ceramics. However, he cautions that we cannot “automatically read off the structure and symbolic life of a community from one small part of its material culture,” (1994:138). Therefore, while Barley’s analysis demonstrates clearly the symbolic association of motifs between seemingly different categories of culture, outside of a theoretical guide it is somewhat difficult to apply archaeologically where material iterations of motifs are limited by

preservation and ethnographic insight is scant or absent. The model constructed by Daniel Miller helps to remedy this conundrum.

Daniel Miller conducted a micro-analysis of pottery production in a single village in India using a combination of ethnography and traditional archaeological categories of analysis, similar to the “formal categories of variation” used here. This was not a critique of typical archaeological practices. “On the contrary, the intention [was] to reveal the richness of information about social relations which these typically archaeological procedures are capable of revealing when applied to contemporary, as well as ancient artifacts, compared to the more conventional subjects and methods of ethnographic enquiry,” (Miller 1985:1). Miller’s work suggests that artifacts, or material objects, are tied to or representative of, other categories of social phenomena within the larger milieu (or structure) of society: “artefacts, as objects created and interpreted by people, embody the organizational principles of human categorization processes,” (1985:1). If artifacts/objects are material embodiments of human social organization, it is then possible to “investigate the manner in which these organizational principles generate variability in material form,” and, in turn, gaining an “understanding of the forces which create artifactual variability can also contribute towards an understanding of the social,” (Miller 1985:1). Miller further suggests that although archaeology may only have pieces and parts of these categories available for investigation due to issues with preservation, the process through which these objects were produced, even in antiquity, are the same processes that modern anthropologists seek to understand. This necessitates the careful consideration of analytic categories. It’s easy to plug artifacts into established, constructed categories, (such as singly relying on the type/variety system) but in Miller’s scenario, such categories hamper the ability to examine variability in objects as variability in social structure. This is exemplified through his

discussion of the connections between pottery color (red or black) and other social categories such as status, gender, caste, exchange and marriage (1985:141-160). Red and even the act of painting, are associated with ritual connotations and practices surrounding the sacred. Red marks placed on the forehead indicate participation in ritual and is applied to village shrines, as well as having a number of other symbolic, sacred associations. “Red, in the form of *sindhu*, is thus the color most closely associated with the transformation of the secular into the sacred,” (Miller 1985:143). Black has its own set of cultural associations. “Essentially, where red is auspicious and favored, black is inauspicious and avoided,” (Miller 1985:145). It does not appear on the clothing of the Hindu and is most often only present within the house on pottery. Parallel categorical associations include: dimly lit lower caste homes, dark skin pigmentation and night. Black pottery is absent from ritual occasions and is strictly associated with secular use (Miller 1985:145-146). Outside of ritual or ceremonial contexts, red pottery is used within the household only to hold fresh, “pure” water. Black is used for all other container and domestic needs. Miller uses the demonstration of the relationship between pottery, variation (color) within it, and pottery’s subsequent referents to illustrate pottery manufacture, use and exchange as a dimension reflective of other social categorizations and hierarchies (1985:150-157). In so doing, the pottery, so often considered archaeologically as an isolated entity, is related “directly to the full social context – in other words, the people who create and use these forms,” (Miller 1985:158).

Miller is quick to point out, though, that these categories have gradation and variability within and between themselves. Citing the work of Rosch (1978), he points out that some members of a category are “closer to its core ‘prototype’ while others are on the more indeterminate periphery,” (1985:9). Objects are just more or less appropriate representations of a

category's ideal. However, there is "vagueness" in the recognition and assignment of objects to categories. It is this sense of indeterminacy, or at least the academic recognition of it, that is significant for material manufactured in the protohistoric Arkansas River Valley, or indeed a contact or early colonial situation anywhere. Social categories are fluid, and so therefore are the material reflections of them. "Analysis has to proceed beyond 'social context,' taken as an unproblematic base-line, and examine in detail the relationship between the various ways in which society constitutes itself in a series of representations manifested in both practical action and conceptual models," (Miller 1985:9).

Miller's strategy provides a methodological link for extrapolation of social structure from material objects, in this case archaeological ones. It provides a point of examination for the articulation of artifacts, social categories and structure (Figure 130). This articulation is indistinguishable (at least in the context of *habitus* or routine practice). Objects become the category and vice versa through routine use and classification by users. If we (archaeologists) can attain an understanding of the classification of objects as categories, then we can approach the mindset of the user, no matter how far they may be removed by time.

Miller acknowledges the presence of change in structure and that it is subsequently reflected in objects/categories stating: "Nevertheless, there may come a point at which significant social change manifests itself in changes in the material world, which itself serves as a prime source for the objectification of social relations and conceptions as to the nature of society," (1985:12). Again, this model is ideal for linking the social world to its physical manifestation, the first step necessary to take archaeology beyond mere exercise in classification. Miller's model does not, however, interpret or change – either socially or materially. I would argue that the images and objects that form the heart of this analysis, likely represent a material

embodiment of change itself. Therefore, subsequent analytic models are needed to examine such an embodiment in the Central Arkansas River Valley. In the following section, such models are discussed and applied.

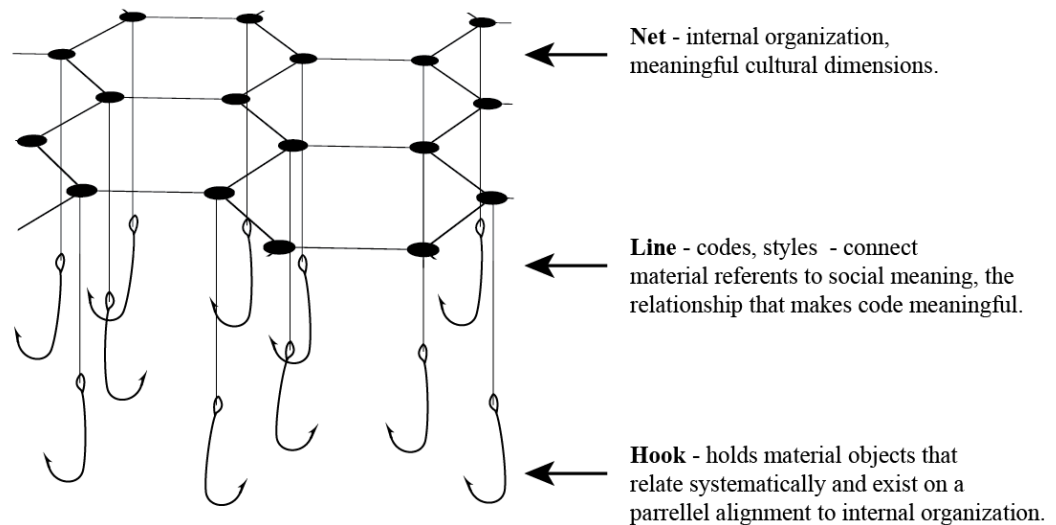


Figure 130. Illustration of Daniel Miller's (1984) identification and explanation of artifacts as categories of social structure.

Manifesting Change in Material Objects and Imagery

Examining how changes in social structure are reflected in imagery and objects relies on a careful examination of the articulation of agency, material culture and the processes of sociocultural change situated in specific temporal contexts. The model applied herein to establish a window through which we can glimpse protohistoric social structure and the changes affecting it in the Central Arkansas River Valley assumes the presence and effectiveness of human agency in affecting change within habitus and the practice of everyday life. It uses the work of Bordieu (1977), Anthony Giddens (1979), William H. Sewell (2005) and Alfred Gell (1998) to outline possible aspects of social structure governing categories of artistic production and how those categories changed over time. The agency that specific images and objects have within this scenario is also apparent. Furthermore, based on the suggestion of Barley's and

Miller's work, the change apparent in the pottery and rock art in the Central Arkansas River Valley is indicative of changes in categories of social structure. Using the historical setting within a socially liminal context, it is then possible to interpret in what ways these specific categories of social structure were changing during this time and what this means for our overall understanding of life there at the dawn of a changing world.

Agency is most simply defined as the capacity to have or take action or power in any given situation. The notion in anthropology has its roots in the disciplinary drive to move away from "determinist models of human action by acknowledging that people purposefully act and alter the external world through those actions," (Dornan 2002:304). Within post-processual archaeology it has become the dominant underpinning paradigm. Drawing from the work of others, Dornan further defines it:

"At the heart of agency theory is thus, the basic agreement that people are not uniform automatons, merely reacting to changes in the external world, but instead, that they 'play a role in the formation of the social realities in which they participate,' (Barfield 1997:4). Likewise, these theories focus on both 'the impact of the system on practice, and the impact of practice on the system,' (Ortner 1984:148)," (Dornan 2002:304).

Beyond this basic characterization, the use of agency in archaeology has expanded to various permutations over the last three decades. Pierre Bourdieu's *Outline of a Theory of Practice* centers on the concept of human negotiation of and response to the social structure (1977). Bourdieu's work, stemming from other early and mid-twentieth social theory focused on oppositional class struggle within structuralism, posits that agents (people) develop dispositions in response to the determining structure. Habitus provides the skill set necessary to navigate within the differential fields of the structure and guides decision-making within it. Dornan (2002:304-308) points out the still somewhat deterministic slant of Bourdieu's application of agency within structuralism: "Bourdieu's notion of doxa (the naturalized perception of existing

social structures) and his insistence that here is no room for intentionality in understanding human action are based on the assumption that the habituated nature of much of human action is necessarily performed without conscious reflection and therefore beyond the purview of individual motivation,” (2002:306). Subsequent theorists have explored the role of consciousness and intentionality in human responsive actions to structural patterns. One of the most pertinent to this analysis is Anthony Giddens (1979, 1984).

Giddens sees agency as a mechanism for structural change through the process of structuration. Social practices are in a “continual process of production and reproduction,” (Giddens 1979:41). He conflates agency with the term “action,” and suggests that it does not occur in discrete episodes, but instead to a “continuous flow of conduct,” (1979:55). Structure, as he sees it, is “structuring properties providing the ‘binding’ of time and space in social systems,” that “can be understood as rules and resources, recursively implicated in the reproduction of social systems,” (Giddens 1979:64). Emphasizing the importance of temporality in this dynamic, he outlines three key components: 1) structure, 2) system and 3) structuration. These concepts, as he describes them are defined in the table below.

Structure	“Rules and resources, organized as properties of social systems. Structure only exists as ‘structural properties.’”
System	“Reproduced relations between actors or collectives, organized as regular social practices.”
Structuration	“Conditions governing the continuity or transformation of structures, and therefore the reproduction of systems.”

Table 21. Key concepts in Giddens theory of structural organization and structuration (1979:66).

Within this theory rules guide or direct human agency and resources make it possible. Rules and resources dialectically oscillate. Giddens also makes a distinction between system and structure: “Systems, in this terminology, have structures, or more accurately, have structural

properties; they are not structures themselves,” (1979:66). “To study the structuration of a social system is to study the ways in which that system, via the application of generative rules and resources, and in the context of unintended outcomes, is produced and reproduced in interaction,” (Giddens 1979:66). Structuration and its importance to the analysis of Central Arkansas River Valley materials is best summed up by Giddens: “Human social activities, like some self-reproducing items in nature, are recursive. That is to say, they are not brought into being by social actors but continually recreated by them via the very means whereby they express themselves as actors. In and through their activities agents reproduce the conditions that make these activities possible,” (1984:2)

William H. Sewell expands on many of Giddens’ ideas. Sewell argues that the term “rules,” used by Giddens to identify principles guiding action within a structure, implies a formality in the dialectic process of structuration that does not exist. He suggests that the term “schema” conceptualizes the process more accurately. “Rules” include not only “the array of binary oppositions that make up a given society’s fundamental tools of thought, but also the various conventions, recipes, scenarios, principles of action, and habits of speech and gesture built up with these fundamental tools,” (Sewell 2005:131). However, he largely agrees with Giddens’ characterization of the process and the virtual nature of rules. Schemas or rules “can be generalized – that is, transposed or extended – to new situations when the opportunity arises,” (Sewell 2005:131). Therefore, they are virtual. Furthermore, knowledge of these schemas and access to resources empowers agents to “act with and against others by structures,” (Sewell 2005:143). “Agency arises from the actor’s knowledge of schemas, which means the ability to apply them to new contexts,” (Sewell 2005:143). The actual process of structuration lies in this

duality, or dialectical relationship between existing schemas and their use, reapplication and subversion using available resources by social agents.

Sewell also emphasizes the role that events, especially sudden or unexpected ones, play in structuration. Drawing from historical practice, he suggests a theory of “eventful temporality,” in which people and groups engage in social action in events and “happenings,” (Sewell 2005:100). He further suggests: “Events may be defined as that relatively rare subclass of happenings that significantly transforms structures. An eventful conception of temporality, therefore, is one that takes into account the transformation of structures by events,” (Sewell 2005:100). This further assumes a chronological causality between events and “that social causality is temporally heterogeneous,” not uniform, implying that “structures that emerge from an event are always transformations of preexisting structures,” (Sewell 2005:101-102). Sewell acknowledges that this theory of events is limited in time and space. It cannot be applied to interpretation of “large-scale or ‘macrohistorical’ processes,” (Sewell 2005:113). However, it may have usefulness in interpreting the role of events in structuration in the Central Arkansas River Valley.

He uses the work of Marshall Sahlins, structuralist anthropologist, as a starting point for examining the “event.” In *Islands of History*, Sahlins focuses on the role of events in cultural transformation, using the event of Cook’s arrival and subsequent death in the Hawaiian Islands in the late eighteenth century as an example (1985). Sahlins illustrates how Cook’s arrival in the island chain in 1779 coincided with islanders’ mythology and related cycle of ritual and ceremony in such a way that the event was incorporated into existing schema and appropriated and acted upon by Hawaiian’s acting within these schema. When Cook’s actions, returning to the island after the figure he represented within the appropriated mythology should have

departed, became a threat within the schema, conflict ensued and he was killed. His remains were subsequently incorporated into Hawaiian cultural practice (Sahlins 1985:138; Sewell 2005:200-201). Sewell summarizes the power of this example:

“The intrusion of Europeans into the islands was certainly a transformative event in the history of Hawaii. But how the intrusion affected Hawaii, what its specific historical consequences were, resulted not simply from the brute force or technological superiority of the Europeans. Europeans, their actions, and their material goods were appropriated in Hawaiian cultural terms, absorbed into a Hawaiian scheme of myth and practice. This is the sense in which as Sahlins puts it, ‘the transformation of a culture is a mode of its reproduction,’” (Sahlins 1985:138 as cited in Sewell 2005:202).

Sewell’s eventful temporality is applied to four different archaeological situations by Beck et al. (2007). They focus on situating events and their structuring role “within an explicitly archaeological framework,” (Beck et al. 2007:833). Their examples range from Bronze Age Denmark to the Mississippian site of Cahokia, including as examples Iceland’s conversion to Christianity and platform construction at Chiripa, Bolivia (Beck et al. 2007:835-844). Drawing heavily from Sewell, their “eventful archaeology,” suggests that “historical events effect the durable transformations of structures both by disjoining the points of articulation among resources and schemas and by offering new opportunities for their creative rearticulation through human agency,” (2007:844). They suggest, that (when possible) textual and archaeological information complement each other in such an analytic approach while highlighting different categories of structural change. Furthermore, by demonstrating the validity of an eventful approach to archaeological problems, they suggest the possibility of “eventful analysis to encompass a far greater breadth of the human experience than text alone,” (Beck et al. 2007:844). While the authors clearly acknowledge the role of agency in eventful archaeology, their conception of it is slightly different than previous researchers’: “Agency invokes the

potential to transform – rather than merely to reproduce – the prevailing structural networks, and it is during historical events that creative manifestations of agency realize their capacity for reshaping social structures,” (Beck et al. 2007:845). The agency of objects is not addressed within their conception of eventful archaeology, however. Within an analysis that relies solely on material culture, or objects – particularly one situated in a liminal or transformative period – the role of objects in the transformation of structure takes on a great deal of significance, and object agency emerges with considerable interpretive power (as demonstrated below).

The above discussion is an abbreviated presentation of a set of ideas drawn from major social theorists of the last half-century. It is by no means a complete representation of their work, but instead draws from each of them in order to construct an analytic model suitable for application in this particular instance. Figure 131 illustrates the appropriation of these ideas into the first part of an analytic model that will be used to interpret cultural change in the protohistoric Central Arkansas River Valley.

Figure 131 uses a mangrove swamp as an analogy for culture and structuration. The overall swamp, or series of interconnected trees, represents the multitude of cultures. Individual trees represent individual cultures; just as the roots of the trees are interconnected, sometimes so are individual cultures in proximity to one another in space and time. Each individual tree, or culture, is formed by an ever-changing structure. The roots and branches of the tree represent specific cultural institutions, shaped and guided by the habitus and agency. The water, in which some roots grow, or the land/air in which other parts of the same tree grow represents habitus. The roots are ever changing, forming and reforming the structure of the tree/culture through

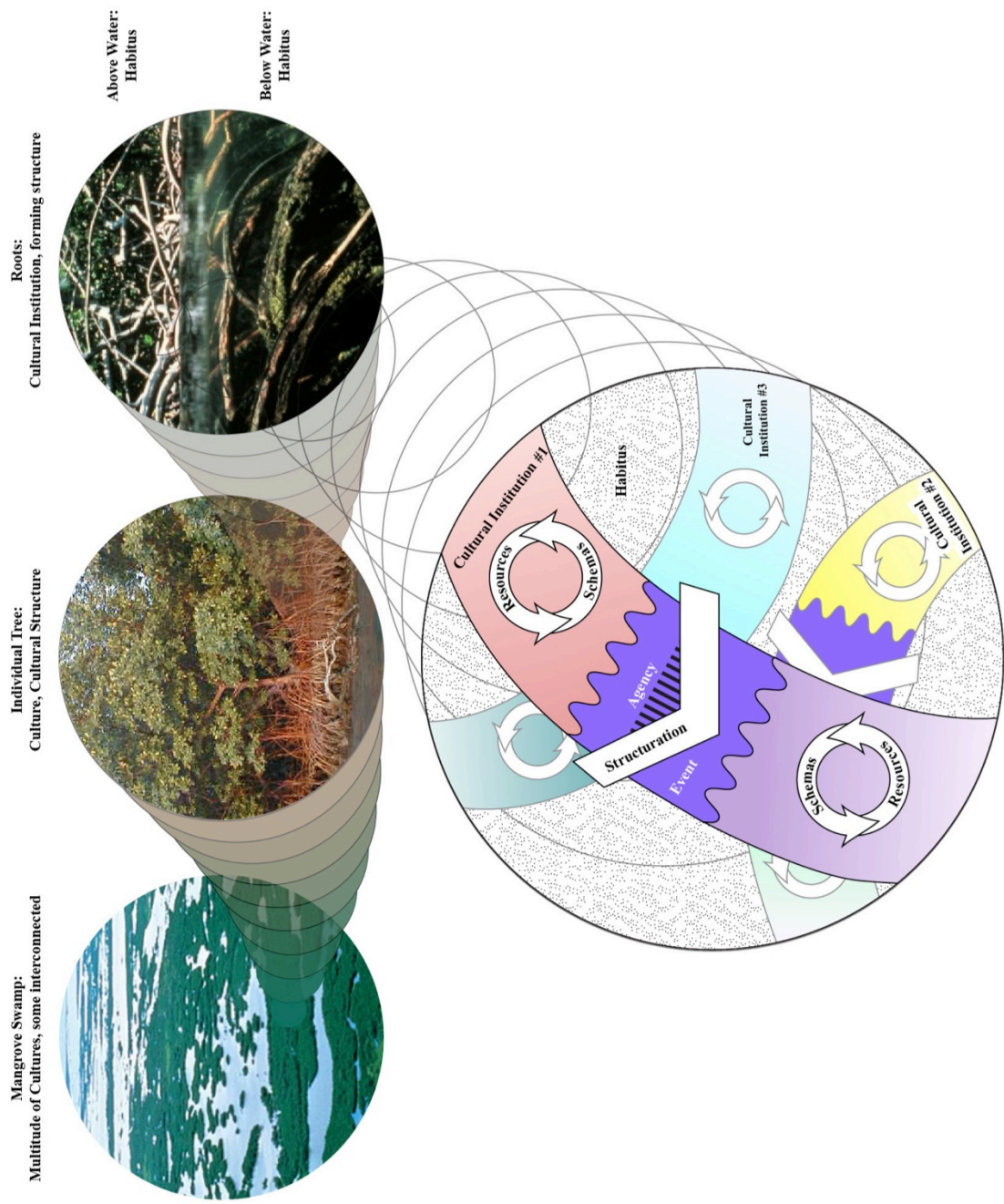


Figure 131. Cultural structure and the process of structuration illustrated.

structuration. Events can alter the direction or affect the growth trajectory of the roots, reflecting the eventful temporality of structuration. The interplay between schemas and resources (biological in the case of the tree) also help determine how roots grow or structuration occurs. Figure 132 illustrates the interplay between schemas and resources. In reality, the two are so interdependent that it is difficult to separate them analytically. Schemas guide the use of resources, which are used to create material manifestations of schemas. Thus, the two are virtually inseparable.

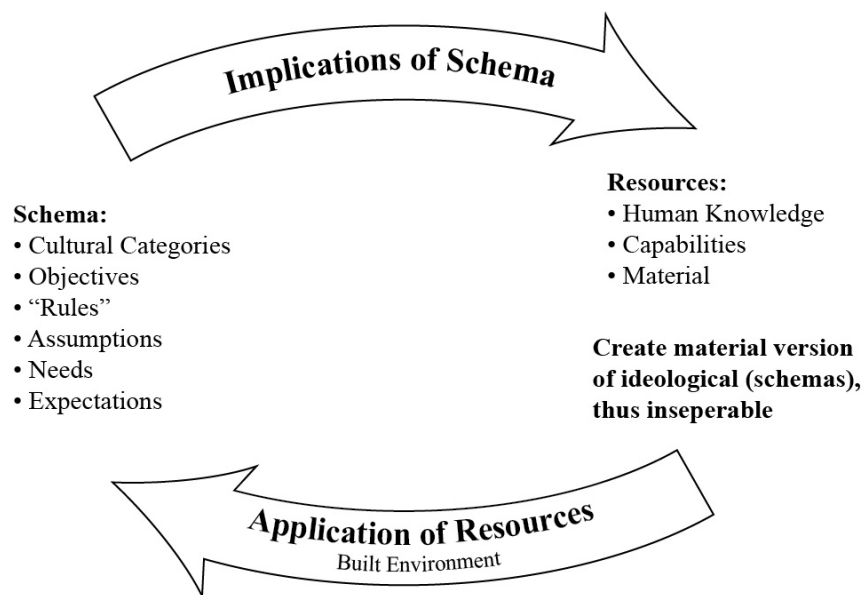


Figure 132. Illustration of interplay between schemas and resources.

Various cultural institutions, part of the overall structure, are changed through the process of structuration. This occurs within the cultural habitus via a dialectic between schemas and resources, and is often spurred or punctuated by events in time. Over time cultural structures are changed through the interaction of these processes. Agency is the mechanism through which individuals and social groups act within the above dynamic.

But is this true of material objects as well? Do material objects have agency? Agency, essentially, is an analytic construct used to examine relationships and dynamics of power within

sociocultural interactions and structure. It is defined or identified on a post-hoc basis, especially archaeologically, and therefore is always an assumption when defined archaeologically. That said, and while recognizing the presumptive nature of such analysis, agency as an interpretive mechanism has been demonstrated to have great power, even archaeologically. A stringent model is needed for examining it in situations where little or no ethnographic information is present, though, such as archaeological scenarios. As objects and imagery are virtually the only means available for interpreting the dynamics of protohistoric social change in this region, this question forms the basis for the necessary second part of the analytic model constructed here.

Alfred Gell expands the relationship between agency and structuration to include material objects. Gell's work essentially dissolves the notion of a socially constructed reality that is separate from material reality. Therefore, material objects or images can have agency and affect or inspire change or action within a structure. Viewing objects as agents assumes that they can induce responses which can set off or influence events, possibly even epitomizing events along the lines of Sewell's eventful temporality. Gell's work focuses on the *relationship* between participants, including objects, within sociocultural structure and change, outlined in an anthropological theory of art he refers to as the art nexus (1998:12). While he is primarily concerned with "art objects," he emphasizes that to be analytically sound such a theory cannot be limited to applicability to "art" exclusively. The distinction between what is art and what is not is subjective, aesthetically motivated and culturally distinct. Any model for theorizing the role of art in society, therefore, would need to be tailored to specific instances or questions in specific cultural settings. Instead, Gell suggests the following:

“The anthropological theory of art cannot afford to have as its primary theoretical term a category or taxon of objects which are ‘exclusively’ art objects because the whole tendency of this theory, as I have been suggesting, is to explore a domain in which ‘objects’ merge with ‘people’ by virtue of the existence of social relations between persons and things, and persons *via* things,” (Gell 1998:12).

The art nexus consists of four parts, or participants within the dynamic between objects and society: the index, the artist, recipients and prototypes. The relationship between these participants is largely manifested via the cognitive process of abduction, or abductive reasoning (first defined by Pierce, 1883). Abduction is the inference of meaning of a sign, or index, based on recognized general rules. For example: where there’s smoke, there’s fire. Not necessarily, but generally smoke is seen as a sign (or index of) the presence of fire (Gell 1998:13-15).

“Abduction covers the grey [sic] where semiotic inference (of meanings from signs) merges with *hypothetical inference* of a non-semiotic (or not conventionally semiotic) kind,” (Gell 1998:14).

He is careful to distinguish semiotic models of language from this model, and abduction is key to this: “Abduction, though a semiotic concept (actually it belongs to logic rather than semiotics) is useful in that it functions to set bounds to linguistic semiosis proper, so that we cease to be tempted to apply linguistic models where they do not apply, while remaining free to posit inferences of a non-linguistic kind,” (1998:15). This is somewhat freeing for the material culture specialist, as people do not process and engage with words and things using identical cognitive processes, and attempts to use linguistic or purely semiotic models of analysis for objects usually requires some analytic restructuring or laxity in its application.

The anthropological theory of art focuses on the social *relationship* between objects, ideas and people. “These social relationships form part of the relational texture of social life within the biographical (anthropological) frame of reference. Social relations only exist in so far as they are made manifest in actions. Performers of social actions are ‘agents’ and they act on

‘patients’ (who are social agents in the ‘patient’ position vis-à-vis an agent in action),” (Gell 1998:26). Within this dynamic, agency is not used in the classificatory sense. It is relational and context dependent. For any agent there is a patient and vice versa. The agent, or “social agent,” as Gell refers to them, “exercises social agency,” or “causes events to happen in their vicinity,” (Gell 1998:16). Any person is potentially a social agent, and agency is ascribed to those who “are seen as initiating causal sequences of a particular type, that is, events caused by acts of mind or will or intention, rather than the mere concatenation of physical events,” (Gell 1998:16). This does not account for intentionality or even self-awareness or causal recognition of actions and events. In many cases, social agents may be unaware of their own agency or the outcome of their actions are unexpected or unintended. Gell extends social agency to “things,” or objects. “Social agency can be exercised relative to ‘things’ and social agency can be exercised by ‘things’ (and also animals),” (Gell 1998:17-18). People form social relationships with things. To illustrate this, Gell uses the example of people’s personification of and relationship with their cars. We name our cars, attribute personalities (complete with individual quirks) to them and form emotional or sentimental attachments to them. Referring to his Toyota, Gell asserts that should it “break down in the middle of the night, far from home, I should consider this an act of gross treachery for which I would hold the car personally and morally culpable, not myself or the garage mechanics who service it,” (1998:19). We’ve all been there and likely, have each attributed such power, or agency, to objects on which we rely and have such relationships, such as our computer or iPhone. The same dynamic, or relationship, can exist with art objects. The relationship between agents and patients exists in the “fleeting contexts and predicaments of social life, during which we attribute agency to cars, images, buildings and many other non-living, non-human things,” (Gell 1998:22). Gell summarizes the agent/patient dynamic:

“It is important to understand, though, that ‘patients’ in agent/patient interactions are not entirely passive; they may resist. The concept of agency implies the overcoming of resistance, difficulty, inertia, etc. Art objects are characteristically ‘difficult.’ They are difficult to make, difficult to ‘think,’ difficult to transact. They fascinate, compel, and entrap as well as delight the spectator. Their peculiarity, intransigence, and oddness is a key factor in their efficacy as social instruments. Moreover, in the vicinity of art objects, struggles for control are played out in which ‘patients’ intervene in the enchainment of intention, instruments, and result, as ‘passive agents,’ that is intermediaries between ultimate agents and ultimate patients,” (1998:23).

So, how is this relationship, or dynamic of power, examined, particularly among imagery and objects? “Art objects lead very transactional lives,” (Gell 1998:24). The dynamic between them and other participants in transactions, is illustrated using the art nexus, characterized as a “network of social relationships in the vicinity of art objects,” (Gell 1998:25). The parts of this model are discussed below.

Within the art nexus the indexes are “material entities which motivate abductive inferences, cognitive interpretation, etc.,” (Gell 1998:27). Indexes are objects, images, art or art-like works. “An ‘index’ in Peircean semiotics is a ‘natural sign,’ that is, an entity from which the observer can make a *causal inference* of some kind, or an inference about the intentions or capabilities of another person,” (Gell 1998:13). Within most of Gell’s applications, and certainly within any application of this model to the Central Arkansas River Valley materials, the index is the “starting point,” or known entity within the dynamic. As it is a model to analyze social relationships surrounding art works or objects, it is logical that the index (art work, object or image) is identified and necessary within the analytic model. Essentially, the model focuses on the “index and the participants around the index,” (Gell 1998:23). Additionally, it needs to be clarified: indexes do not have to be a strict visual representation of what they reference.

Artists are the “originators” of the index. They are the group or individuals (known or unknown) “to whom are ascribed by abduction, causal responsibility for the existence and characteristics of the index,” (Gell 1998:27). The dynamic between the artist and the index usually places the index in the “patient position in a social relationship with its maker, [the artist] who is an agent, and without whose agency it would not exist,” (Gell 1998:23). However, the artist is not always known, and indeed, specific identification is not necessary in order to examine the relationship between artist and index or artist and other participants in the art nexus. “The origins of art objects can be forgotten or concealed, blocking off the abduction leading from the existence of the material index to the agency of an artist,” (Gell 1998:23). Furthermore, objects made by human artists are not always believed to have originated from them. Certain objects are thought to have originated from divine contexts or “mysteriously made themselves,” (Gell 1998:23). These factors warrant consideration when examining the relationships to the artist, particularly in an archaeological context when the identity of artists is generalized or unknown.

Recipients are “those in relation to whom, by abduction, indexes are considered to exert agency, or who exert agency via the index,” (Gell 1998:24). “The public, or ‘recipients’ of a work of art (index) are, according to the anthropological theory of art, in a social relationship with the index, either as ‘patients’ (in that the index causally affects them in some way) or as ‘agents’ in that, but for them, this index would not have come into existence (they have caused it),” (Gell 1998:24). The identity of recipients is also sometimes unknown or uncertain in an archaeological context, and can be considered invisible or private, such as in the case of very secluded, inaccessible rock art images. These images still have recipients, but they may or may

not be actual physical beings, and it is unlikely that they are the “public” as modern Western society conceives of it.

Prototypes are “entities held, by abduction, to be represented in the index, often by virtue of visual resemblance, but not necessarily,” (Gell 1998:27). Foremost in discussing prototypes is the recognition that not all indexes have one, or at least an identifiable one. Indexes “represent anything distinct from themselves,” (Gell 1998:26). Neither are prototypes always visual. The relationship between indexes and prototypes is, inescapably, representational at some level, but not necessarily in visual form. Indexes that reference other entities, but not via visual appearance are aniconic, while “iconic representation is based on the actual resemblance in form between depictions and the entities they depict or are believed to depict,” (Gell 1998:25-26). These representations may be very detailed, or they may be more “schematic,” meaning that only a few visual features of prototype depicted by the index are needed to motivate abduction (Gell 1998:25-26). Figure 133 illustrates the structure of the art nexus, but in order to understand its workings and effectiveness as an interpretive model, actual examples or applications of the model are needed. Examples from the Central Arkansas River Valley are discussed below.

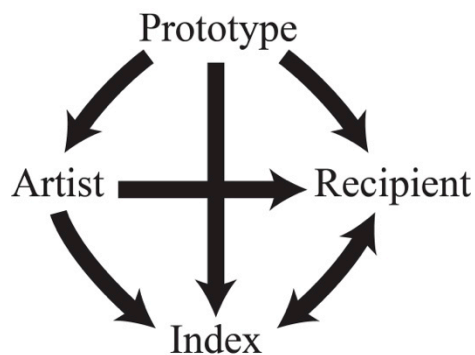


Figure 133. Participants in the Art Nexus, direction of arrow indicates agent/patient relationship.

Triskelion in the Art Nexus. The triskele, or triskelion as it is called here, is a common, widespread motif in the late prehistoric and protohistoric period art of the Southeast. It appears to have been concentrated on shell gorgets in the Nashville region of Tennessee at sites such as the Castilian Springs site (40SU0014) in the Cumberland River Valley. Interestingly, another motif (the looped or pulled square motif) also seems to have a concentration on contemporary shell gorgets from this site. Those are discussed below. The triskelion however, appears on shell gorgets in this region at sites that primarily have occupation in the fourteenth and fifteenth centuries (Muller 1989:17-26) (Figure 134).



Figure 134. Triskelion gorgets from the Cumberland River Valley. Left: National Museum of the American Indian, Smithsonian Institution (15856.000); Right: Peabody Museum, Harvard University (15835b).

In the Arkansas River Valley, the motif appears on an ear spool from the Spiro site (Figure 135) dating to the late Mississippian period and on pottery vessels in the Central Arkansas River Valley assemblage. The motif is commonly rendered with the arms of the triskelion spinning outward from a central, open circle. In pottery vessels from the Central Arkansas Valley, it is most commonly seen in the superior view, either on red on buff bowls or on bottles with the orifice forming the central open circle (Figure 136).

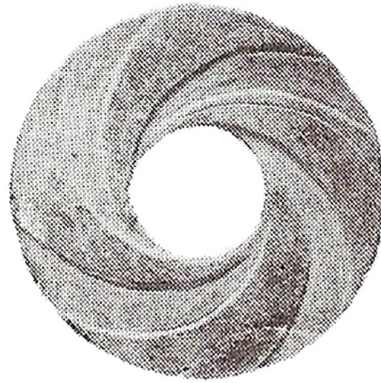


Figure 135. Carved stone ear spool from the Spiro Mounds site (D169-7), (Brown 1996:565).



Figure 136. Pottery vessel from Galla Creek basin, Atkins Bottoms, Pope County Arkansas, superior view (5425.1937), Gilcrease Museum.

When examined within Gell's art nexus model, does the triskelion suggest object agency? Looking at examples from Castilian Springs, Tennessee, Spiro Mounds in Oklahoma and the Central Arkansas River Valley, it might. Archaeology has established a link between Nashville Style engraved gorgets from Tennessee and engraved shell at the Spiro site in Oklahoma. However, most of these links on shell do not feature the triskelion motif. Instead, serpentine and aviary motifs are more commonly linked between the two locations (Muller 1989:20-21). The

triskelion is found on carved stone ear spools from Spiro, though, and in a nearly identical way to the manner in which it is depicted on the Nashville style gorgets. Furthermore, two hundred years later, this same motif is rendered, in much the same manner, on pottery vessels in the Central Arkansas River Valley. Gell's model provides the mechanism to interpret the role of agency within the depiction and subsequent reuse of this motif.

Examining the use of the motif across space and time, using two art nexus models, it appears that the triskelion had some suggestive power, or agency, over artists and recipients across a wide area over hundreds of years. The Castilian Springs depiction of the triskelion appears primarily on engraved shell gorgets, with some examples having been found on Nashville Negative Painted sherds (Muller 1989). Muller notes a distinction between the artistic style in which this motif is commonly used, and earlier gorgets from nearby regions: "Shell gorget production or exchange in the Nashville region became relatively common only in 'post-Cult' times. During the fourteenth and fifteenth centuries, however, the gorget style that seems to center on the Nashville region is what I have called the Nashville Scalloped Triskele. This form of gorget seems to have been widely exchanged and even copied over much of eastern North America," (Muller 1989:22-23).

At the Spiro site in eastern Oklahoma, the triskelion motif does not commonly appear on engraved shell artifacts. Instead, it is applied in a very similar manner to carved stone ear spools. If the Castilian Springs gorget is considered a prototype, created by an unknown artist, the Spiro earspools (also created by an unknown artist) may be considered the index. The recipients, while specifically unknown, could be assumed to be inhabitants of Spiro, those gathered there for ceremonial purposes, the wearer of the ear spools and those they encountered in general. The agent/patient relationship is illustrated to examine the role of agency within the dynamic between

people, objects and images (Figure 137). The Castilian Springs gorgets (prototype) influence an unknown artist to apply the same motif (and its associated, but unknown, ideology) in much the same manner, but using a completely different medium (an earspool) in an index. Thus, the prototype can be said to exert agency over the artist, their index, and secondarily the recipients through their response to the artist's creation, the index. Art or objects such as an earspools are made to be viewed, and thus, with the recipients in mind. In this way, there exists a dialectic relationship of agency/patency between artists and recipients in this scenario. The index, when it inspires action or reaction in its recipients, exerts agency over recipients. Extending the example of the triskelion through time to the Central Arkansas River Valley, we see how this may be the case.

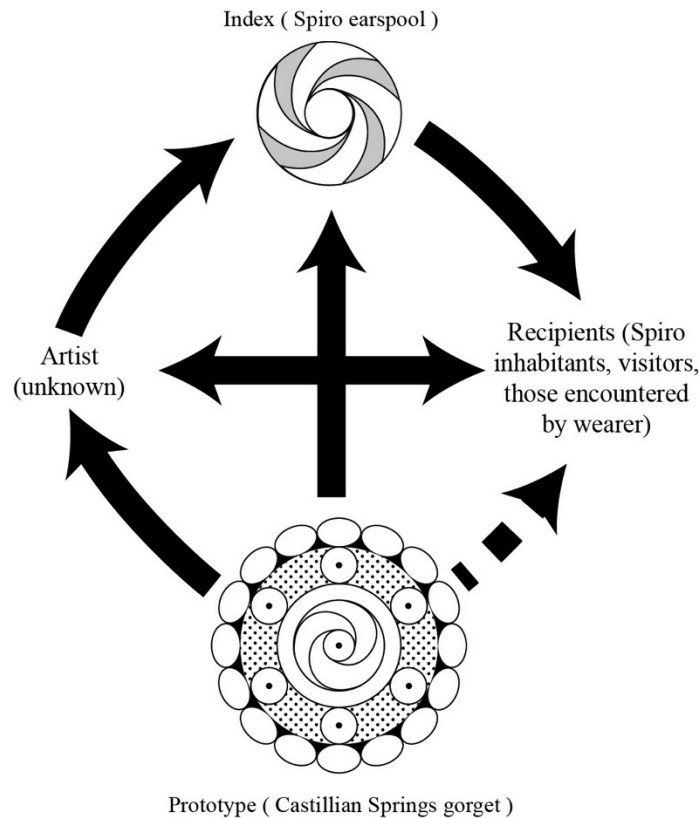


Figure 137. Illustration of agent/patient relationships with triskelion motif.

The same motif seen on engraved shell gorgets and ear spools during the late prehistoric period is applied to pottery in the superior view in the Central Arkansas River Valley assemblage during the protohistoric period. If the inhabitants of the protohistoric period in the Central Arkansas River Valley are descendants of the late Mississippians that created objects such as the Spiro earspools, then their subsequent reuse of the same motif (in a different way) suggests that earlier iterations of this image have some agency over the people living there in the protohistoric period. In this scenario, the earspools become the prototype and the pottery vessels the index. The artist and recipients were protohistoric residents of the Central Arkansas River Valley (Figure 138). The dynamics of the relationships within this scenario suggested by the art nexus indicate, once again that objects or imagery have agency. Since these particular earspools were buried with an individual, the protohistoric residents of the Arkansas Valley would not have directly seen them. However, the use of the motif in this region across two hundred years is what is significant. Other instances of its use are present on pottery, and likely on other unknown materials in this intervening period.

Archaeological analysis works with the “snapshots” of the past that we’re randomly dealt. Further investigation may reveal a more detailed timeline of the use of the triskelion motif in this area. Evidence suggests that the motif had enough “staying power” to still have significance two hundred years after the prototype was interred. In this respect, it has agency. Artist(s) of the pottery vessels (index) exert or transfer this agency to recipients, whose expectations, in turn have some agency over the artist and ultimate outcome of the index.

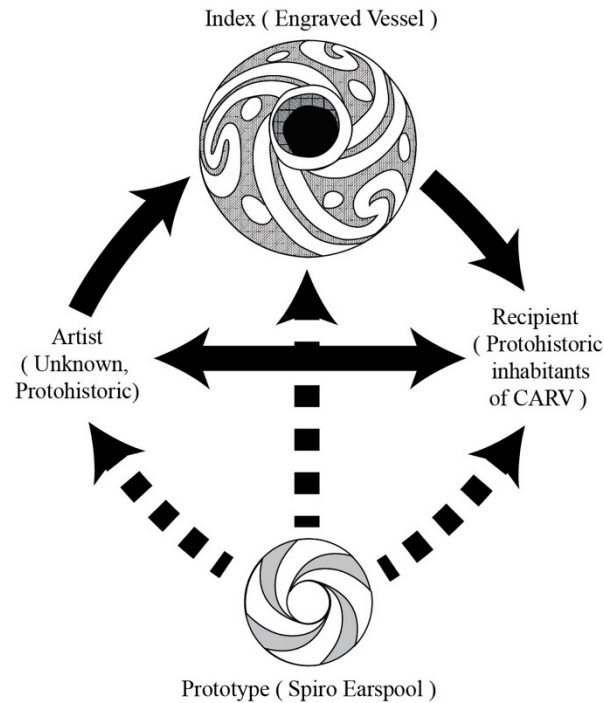


Figure 138. Agent/patient relationship of triskelion motif through time, Arkansas River Valley. Direction of arrow indicates agent/patient relationship. Dashed line indicates possible relationship.

Pulled Square/Interlocking Scroll in the Art Nexus. These motifs and the relationship between them, as it is manifested in the overall structure of pottery vessels in the Central Arkansas River Valley, have previously been discussed at length (chapters five and six). Within the assemblage considered in this analysis, it is well established that the interlocking scroll motif placed around the body of a vessel (usually a bottle) forms a pulled or looped square in the superior or inferior view. This is a common technique used by the artists in this region, and the frequency of the co-occurrence and motif placement on vessels suggests that the artists recognized a relationship between these two motifs.

The interlocking scroll and pulled square/looped square are common across the Southeast throughout the late prehistoric and protohistoric periods. Interlocking scrolls are found on Ramey Incised pottery from Cahokia and elsewhere in the region. George Lankford (2004,

2007, 2011) has extensively analyzed the looped square motif on shell gorgets from across the Southeast. One gorget in particular, in the Cox Mound style, also from the Castilian Springs site in the Cumberland Valley of Tennessee, has been identified as a cosmogram (Lankford 2004:209) (Figure 139). Lankford has dissected the elements of the image on this gorget and determined that it represents a microcosm of the cosmic structure, as the artists and inhabitants of this region understood it (Lankford 2004:208-209). In his interpretation, the looped square represents the earth, and he quickly points out that the motif, and its use in constructing microcosms with art objects is not limited to engraved shell:

“This identification of the looped square as an artistic symbol raises an interesting problem, for it pulls into the collection of art forms that clearly belong to the SECC a large number of prehistoric pots that, despite their different locations, and ceramic treatments, are characterized by a common incised or engraved design. Called a guilloche, this design, when looked at from above the mouth of the pot, is recognizable as the looped square. Its presence on the pottery argues that these pots – constituting a great body of additional artistic material in the SECC corpus – are themselves microcosmic in design,” (2004:209).



Figure 139. Engraved shell gorget, Cox Mound style, Castilian Springs site, National Museum of the American Indian, Smithsonian Institution (15/855).

The correlation between the looped square and the motif depicted on pottery is not one to one, however. Interlocking scrolls around the body of a vessel form a pulled square in the superior view, not a looped one. To fully form “loops,” at the corner of the square, the scrolls would actually need to join to form loops on the side of the vessel as well. However, this does not necessarily mean that the reference is not the same. Particular artistic techniques, such as painting, necessitate some streamlining or simplifying of motifs. It is also likely, based on the sheer number of vessels that have demonstrated a correlation between the interlocking scroll and pulled square in different views, that this relationship between motifs was significant to the artists and recipients.

Analysis and discussion in previous chapters has demonstrated that many of the pottery vessels in the Central Arkansas River Valley assemblage demonstrate the use of the pulled square in the superior view. It transcends vessel form and decorative mode, and is almost exclusively visible in a superior view. In this view on bottles, the orifice forms a central circle, much like on the shell gorgets. The motif is also present on ear spools from Spiro, again with a central circle. Lankford has interpreted this arrangement on shell gorgets to be similar to Creek dance grounds, with a central fire within the square ground (2004:208-209). The houses excavated at Carden Bottoms have a similar structure. Four central support posts surround a hearth in the center of the square house. As previously discussed, the three houses excavated thus far demonstrate nearly identical construction with spacing and depth of posts similar to within less than five centimeters. This suggests an architectural tradition that directed the building of houses much the way ceramic traditions guided the making and decoration of pottery. The looped or pulled square is not found in rock art images, but the interlocking hook, or scroll, is. A series of illustrations applying the art nexus to the use of the pulled square and interlocking

scroll in the Central Arkansas River Valley and beyond highlights the power that these motifs exercised in relationships through space, time and different artistic mediums.

Perhaps the oldest example of the pulled square in this analysis comes from a pottery vessel from a grave at the Mineral Springs site. It was discussed previously in chapter six. At Mineral Springs, this motif is combined with the scroll motif on the side of a bottle. It is only visible in the medial view. If it is considered a prototype, because of its antiquity, it would seem to have exerted agency over recipients and artists in the protohistoric period at Carden Bottoms. The fact that the motif is still in use two hundred years after its use at Mineral Springs and has been incorporated into new ceramic and rock art traditions in different ways suggests that it is important to artists and recipients, and likely has some power/agency in the relationship between people and images over the years in this region. Using abductive reasoning, we can argue that the motif has agency in the relationship with artists two hundred years later. These artists never saw this particular pottery vessel, as it was interred in a grave. However, the evidence suggests that the motif and its meaning was valuable and used over a wide geographic region for hundreds of years. Replicating it in different ways indicated acknowledgement of its artistic, iconographic or cultural significance. Thus the image can be said to exert agency in this way in its relationship with artists, recipients and future indexes. Figure 143 illustrates how this motif has agency through time with the example from Mineral Springs as a prototype.

In Gell's model, the prototype/index relationship has a chronological element by nature. Indexes may be very closely related in time to a prototype, by even days, hours or less; but by definition the prototype influences (and thus predates) the index. The objects and images that I'm examining using Gell's model fall into two groups: those that were created in the Mississippian or late prehistoric period and those that were created in the protohistoric or early

historic Central Arkansas River Valley. Since I'm primarily concerned with detecting and interpreting cultural change as evidenced in material objects, I focus mainly on the relationship dynamics between the older images and the protohistoric ones. Gell's model is combined with mechanisms outlined in the discussion of structuration below. This allows a more nuanced examination of how change is reflected materially, as well as for interpretation about how cultures are changing.

Rock art images in Rockhouse Cave on Petit Jean Mountain depict the interlocking scroll as it is seen on the side of red and white or red on buff painted vessels from Carden Bottoms and elsewhere in the Arkansas River Valley. Again, this is the same image that forms the pulled square in the superior view on pottery. The rock art image is somewhat attenuated compared to the image on pottery vessels (Figure 140). The rock face is flat compared to a pottery vessel, and therefore the same unending depiction of the motif cannot be rendered on the rock. The partial interlocking scroll is what is visible on the side of a pot with this motif when viewed in a medial or lateral state and not rotated. Putting the rock art image and pottery vessel into an art nexus model is somewhat more complicated than doing so with previous examples. The age of the rock art image remains uncertain. It's unlikely that this is of great significance, though. The prolific nature of the image in this region at this time suggests that the rock art image and pottery image were likely part of a self-referential dialectic that was part of a single artistic tradition. In that respect, both images had agency over artists and recipients in the Carden Bottoms vicinity, and in turn each other as the image was produced and reproduced on pottery manufactured at the Carden Bottoms site.



Figure 140. Interlocking scroll depicted in rock art at Rockhouse Cave on Petit Jean Mountain and on vessel from Carden Bottoms, Gilcrease Museum (5425.1608).

Tracking Cultural Change via Material Objects and Imagery

The above examples demonstrate how objects or images have agency. Combining Gell's anthropological theory of art and the art nexus model with the model of cultural change, or structuration discussed earlier, provides an avenue to examine how culture was changing in the protohistoric Arkansas River Valley in response to the turmoil of the period. Structuration occurs in multiple cultural institutions, often concurrently. Many of these cultural institutions result in the production of material manifestations or objects, such as red painted pottery, rock art, engraved pottery or house construction. Structuration, or changes in cultural practice, thus becomes visible to the archaeologist, art historian or other material cultural specialists, even across the distance of time.

A technique, or human knowledge of how to do something (a resource within structuration) is influenced by the expectations and rules of how something *should* be done (a schema within structuration). Resources include knowledge of how to make pots, engrave shell, emboss copper or carve earspools, as well as connections to sources of raw material and tools needed to make such items. Schemas include the expectation of what these items should look like, how they should be used and what purpose they serve within the habitus of society. Artistic

production responds to and, in turn, informs the expectations and rules within the continuing, and virtually indistinguishable dynamic between schema and resources that propels structuration, even as it is manifested in material objects.

Figure 141 illustrates this using the example of the triskelion motif. This figure elucidates the agent / patient relationship between motifs, artistic media, the likely recipients and artists and the outcome of this interplay as it was manifested in particular locations over several hundred years. Drawing from Gell, agency, as it moves through objects and the motif/image they embody via artists and recipients, is seen to manifest itself as artists use different artistic mediums through time to render the same image on different objects. The motif/image has agency, and thus, so does the portable object that carries it.

Applying the schema/resource dynamic to the artistic production of these images illustrates the process of structuration as it is manifested materially. The knowledge of “how” to make a triskele begins as a resource. The constructed boundaries of what makes an appropriate triskele and how it should be depicted and used, as well as what it “means” are schema. The interplay between schema and resource direct the production of this particular motif. Looking at the “snapshots” of this motif across time, we can see that its general depiction remains the same. The schema that directs how it should be depicted and viewed seems to have changed little. What has changed is the schema that dictates appropriate artistic media and possibly the resource of human knowledge (how to engrave shell, carve stone, etc.) or the access to the raw material resources (large marine shell, copper, etc.).

Structuration in Material Culture

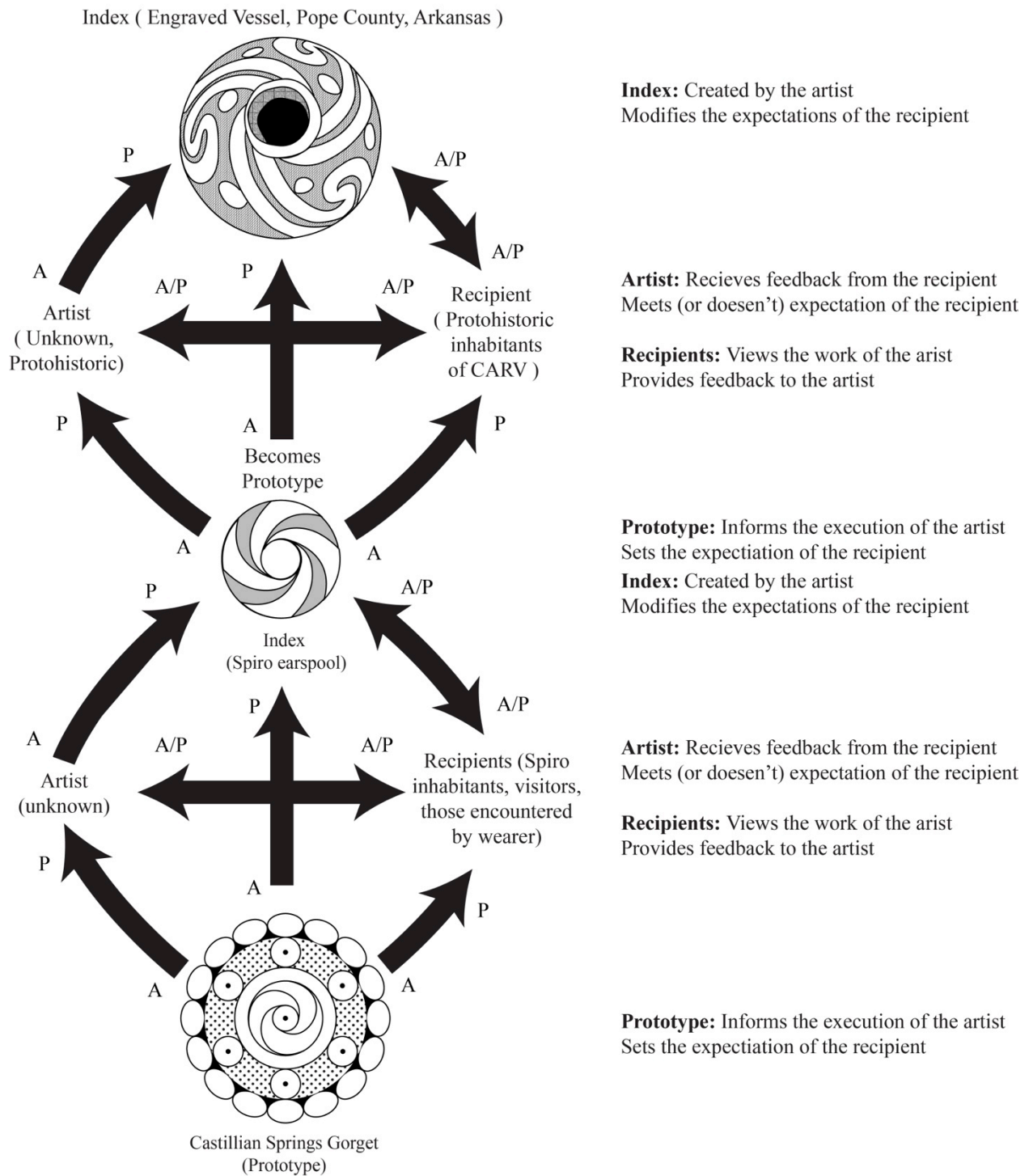
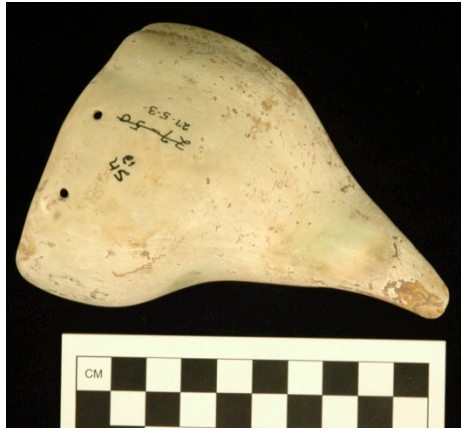


Figure 141. Agency of the triskelion image as it is used in different media, by different artists, for different recipients over time.

In the Central Arkansas River Valley assemblage, no *engraved* marine shell gorgets were documented from the area during the protohistoric period in any of the three museum collections. This is not to say that marine shell gorgets were not present. They were documented both in the University of Arkansas Museum collections and at the Gilcrease Museum. Interestingly, they were prepared for engraving by having the rough exterior surface of the shell removed and the interior and top whorl of the shell cut away. Holes were punctured to attach a cord through and they were reportedly found with burials in the region, indicating this was their “finished” state. But - they were not engraved (Figure 142). Much the same is true of the copper found with burials at Carden Bottoms. Limited amounts of sheet copper, reportedly from burials at Carden Bottoms, were documented in the University of Arkansas Museum collection. It is not embossed or decorated in any way (Figure 143).

The motifs that were so prevalent on these two categories of artistic media in the fifteenth century appear to be absent from them at this locality in the seventeenth century. Yet the category of material is still “prepared” in the same way and used in the same way – interred with the dead. In this respect, it still has similar cultural relevance and indicates ascription in some way to cultural institutions of the recent past. The depiction and reliance on motifs, albeit on pottery and some rock art, from this same past (illustrated above using Gell), suggests that the ideas and institutions of that recent past still had relevance and power (agency) over the



27-5-3



27-11-39



27-5-10



126609.000 National Museum of the American Indian, Smithsonian Institution.

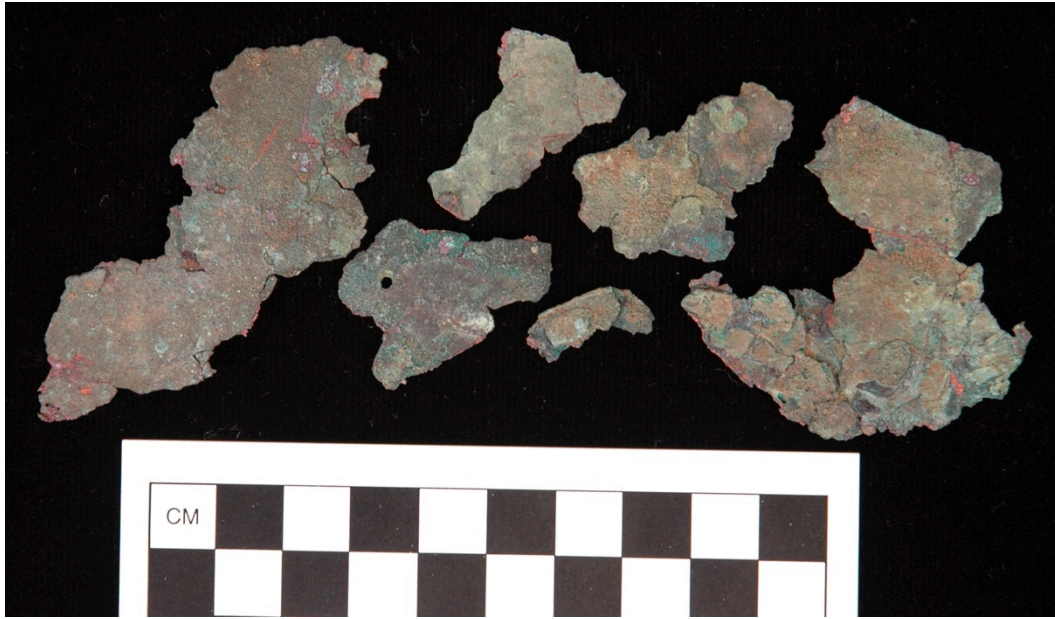


9025.263 and 9025.254, Gilcrease Museum

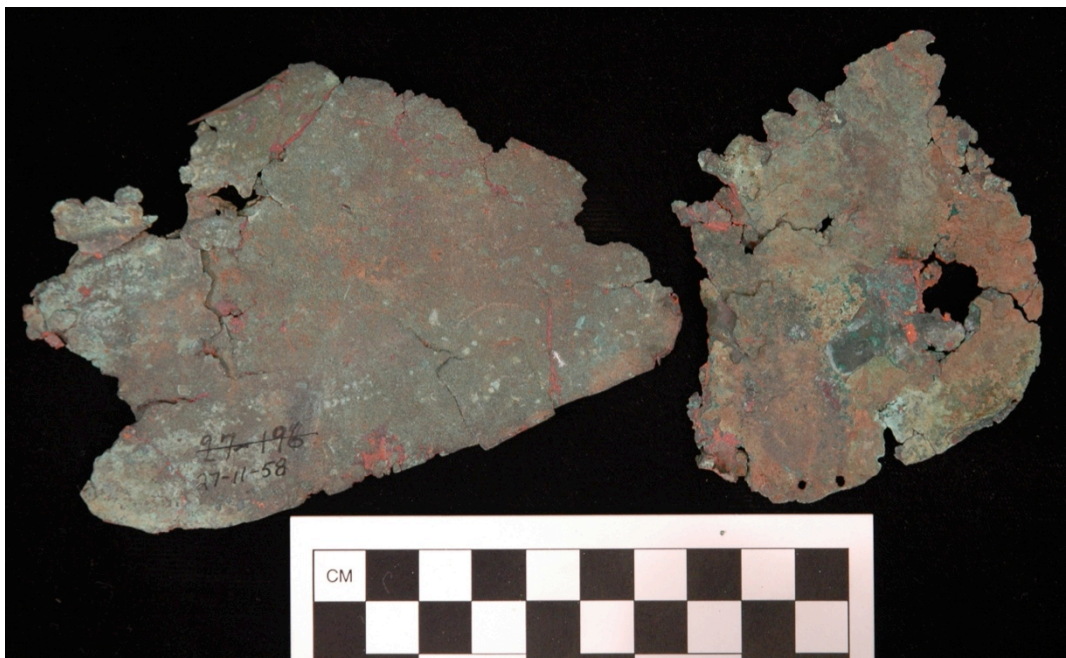


27-11-38 (top) and 27-11-30 (bottom)

Figure 142. Marine shell gorgets from Carden Bottoms, all 27-5 and 27-11 numbers from University of Arkansas Museum collection, others as labeled.



27-11-52a-f



27-11-58 and 27-11-59

Figure 143. Copper sheet fragments, Carden Bottoms, University of Arkansas Museum Collections.

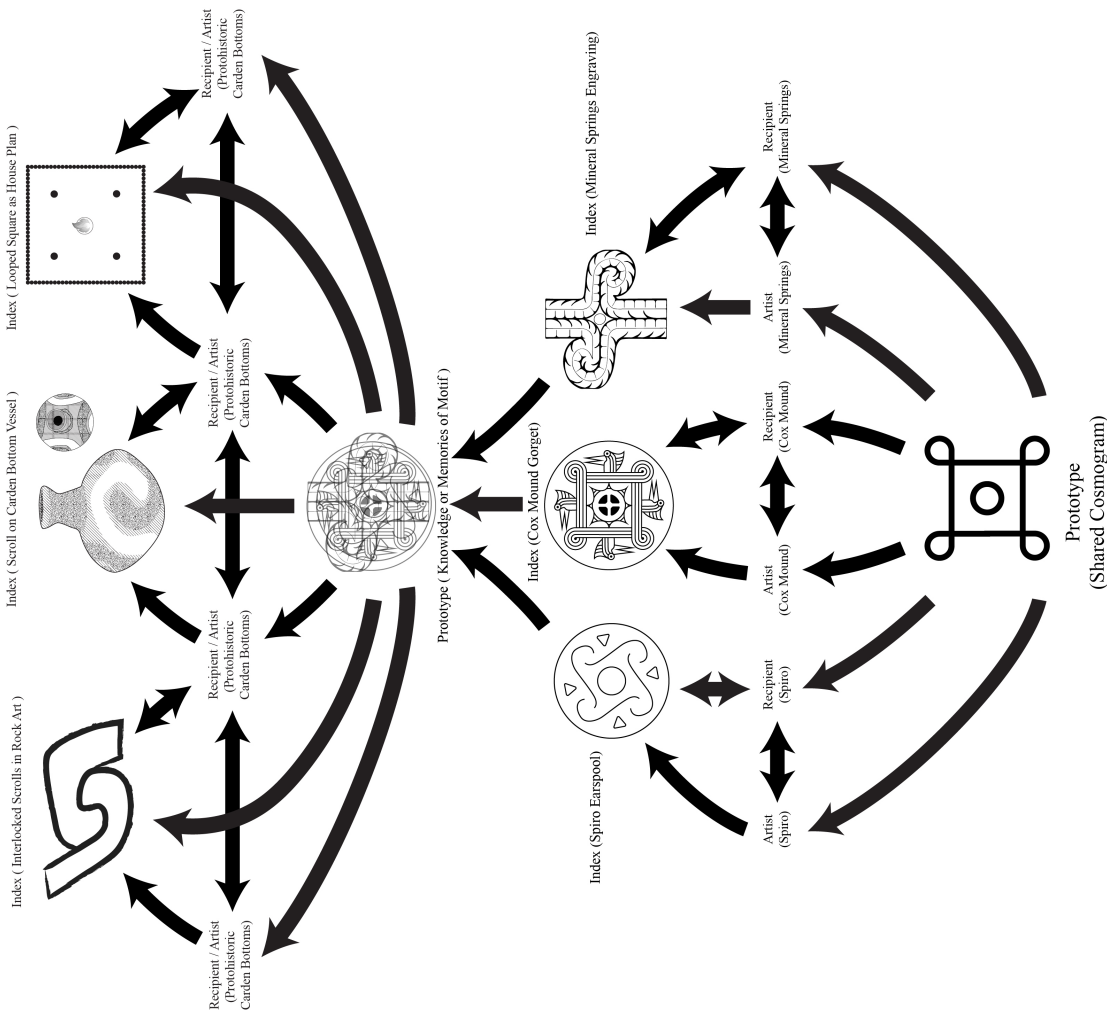
inhabitants of the protohistoric Arkansas Valley. This agency was embodied in the images and objects produced over time. As these figures show, “equivalence suggested between the agency of persons and things calls into question the borders of individual persons and collective representation,” (Hoskins 2006:76).

The process of structuration, or cultural change, is illustrated by the shift in favored artistic media during this time, but perhaps more strongly by the absence of artistic production in other, formerly prevalent, categories of artistic media. Why is there no engraved shell? Why are there no carved earspools or embossed copper plates? These things were still produced and interred with the dead at the time of Spanish contact. Shell, metal and glass beads were recovered from burials by looters, so it stands to reason that if these other categories of grave goods were present they too would have been recovered and (at least some) would have worked their way into these same museum collections as the pottery vessels. Yet that is not the case. The marine shell from the protohistoric Central Arkansas River Valley context appears to have been interred ready to carry the imagery so prevalent two hundred years earlier, but never having been endowed with it. This implies that the significance of the material was still recognized but the resources needed for the traditional production of it were absent – the knowledge base, artisans, or ability to support this level of craft specialization across multiple workshops, each specializing in specific artistic media – had disappeared or waned during the protohistoric period. The schema – or definition of what was acceptable use – had changed to accommodate the resource availability. The production of the same images from this recent past became centered on depiction on ceramic vessels, and the archaeological evidence recovered at Carden Bottoms supports this.

Thus, structuration – or change – was occurring in this scenario. The residents of this region still drew from ideology of their past, but in the “best” way they knew how or were capable of doing – not in an identical fashion of their ancestors. Returning to the examples of the triskelion (Figure 141) and the pulled or looped square (Figure 144): due to the upheavals of the protohistoric period, the people of the Central Arkansas River Valley no longer made shell gorgets, shell cups or ear spools with triskelions and looped squares depicted on them. Instead, their decorated material output is almost entirely focused on ceramics (at least in terms of what is observable archaeologically). As the ability to make complex engraved shell gorgets or embossed copper waned, the modified *resource* becomes a modified *schema*. The resources become unavailable, so the actors (artists and recipients in this case), using agency, adapt schema to the new reality of available resources. The agency of their art objects, and of the prototypes that they drew on to construct them, is highlighted. Since it is no longer possible (or perhaps just no longer desirable) to make triskelions and squares on shell gorgets and earspools, the expectation that they will only appear there disappears as well. The notion of what is “normal” and how “normal” is achieved is iteratively and recursively changed via the agent/patient relationship within the interplay between schemas and resources and within the practice of daily life, ceremony and artistic production. Structuration happens. A new “normal,” or habitus, is formed, new schemas are adopted, along with reinvention and redefinition of resources, all spurred by eventful temporality and the navigation of liminality at this place in time.

Do Objects and Images have Agency?

Yes. But - care must be exercised in interpreting or examining object agency not to overlook or obscure the human agency at work in the same interactions or social scenarios. The



Index: Expressions of a shared prototype, where the expression varies by media, artist and context, as suggested by the habitus and “filled in” by the individual artist with feedback to the recipients. Changes the expectations of the recipients.

Artist: Creates an index with feedback from the Recipient

Recipient: Provides feedback to the artist regarding the acceptability of the created Index

Prototype: Knowledge or memories of the motif, derived from a specific, but unknown art object. Ex: Remembering the shell gorgets that your grandmother was buried with gives you the knowledge of shell gorgets and the pulled square motif, but not necessarily the ability to reproduce those things.

Index: Expressions by artists in distant communities. They are informed by the recipients only within their own community, but relatedness is shown by their reliance on a shared motif and by other archaeological data.

Artist: Creates an index with feedback from local recipients.

Recipients: Provides feedback to local artists, conception of the prototype is changed by the index the artist creates

Prototype: The shared conception of the looped square cosmogram. Although shown here as a prototype, this is a kind of short hand for additional art-nexi with their own indexes and earlier generations of the prototype.

Figure 144. Agency of an image as it is depicted through time on a variety of media, further suggesting cultural change as evident in the process of structuration within cultural institutions of artistic production.

analytic models discussed above provide a means for beginning to track social change and its manifestation in material culture, as well as the agency of objects and images within this process, in the Central Arkansas River Valley during the turmoil for the protohistoric period. Both of these models and their foundational theories are more applicable and function better as available categories of information (ethnographic, cross-cutting archaeological data, detailed provenience, etc.) increase. Archaeologists are limited in the kind and amount of data available for consideration. However, this does not mean that they should not try to frame archaeological inquiry within rigorous frameworks for interpreting social behavior, cultural structure and change, and especially the roles that material object play within them.

Care must be taken not to espouse the agency embodied by or assigned to an object at the expense of the agency of humans in any given scenario (Hoskins 2006:74-84, Steiner 2001:210). The model presented herein for interpreting the process of cultural changes does not explain *why* change happens in any given scenario, nor does Gell's model explain *why* certain images or objects attain the level of social fascination or captivation that results in their lasting presence and reinterpretation over a temporal trajectory. For the most part, archaeologists (as most social scientists) must rely on traditional inductive and deductive reasoning to form hypotheses or interpretations about *why* things happen culturally, historically or archaeologically. The use of the art nexus, building on the theories of object agency that came before it (Appadurai 1986; Kopytoff 1986) demonstrates that objects and images can have or carry agency and it provides a means of illustrating the relationship between social participants and the material world. Gell's work suggests a more active model of an object's biography, in which the object may not only assume a number of different identities as imported wealth, ancestral valuable or commodity but

may also ‘interact’ with the people who gaze upon it, use it and try to possess it,” (Hoskins 2006:76 citing Gell 1998).

In this analysis, the agency of objects is illustrated by the both the continuity of and emphasis on specific motifs, even as they are used and depicted in different ways over time. Objects, and by extension images go through unpredictable transformations over time. Things are “drawn into significant diversions from familiar paths,” (Hoskins 2006:75). This is true of the objects and images discussed from the Central Arkansas River Valley, yet the return to the same motifs highlights the agency of these images in a transformative, liminal, period. This change in artistic production further suggests that there are either parallel changes at work in the protohistoric society of the area, or sociocultural changes that contribute to differential artistic production. As Arjun Appadurai, a founding father of the theory of object agency, states:

“It is only through the analysis of these trajectories that we can interpret the human transactions and calculation that enliven things. Thus, even though from a *theoretical* point of view human actors encode things with significance, from a *methodological* point of view it is the things-in-motion that illuminate their human and social context,” (1986:5).

The evidence presented above highlights the increased significance of object agency during socially liminal periods. Images such as the pulled square and triskelion were visual representations of fundamental cultural principles regarding the creation and organization of the known world to Mississippian people, as well as their Protohistoric descendants (Knight 2013; Lankford 2004; Lankford et al. 2011; Reilly and Garber eds. 2007). The rendition of these motifs in new compositions and in different media in the protohistoric period, a transformative time for its Native American residents, illustrates the reliance of individuals on these fundamental organizational principles during a time when the world seemingly turned end over end. The significance of these ideas was expressed via the agency of familiar locative,

representative images and objects that surrounded them in daily life, ritual, ceremony and death; harkening back to a time when the world made sense, and reaffirming and re-establishing the lost sense of order in the objects they surrounded themselves with.

Liminality and Structuration at Work in the Protohistoric Central Arkansas Valley

If the relationship between agency and structuration in the setting of the Protohistoric Central Arkansas River Valleys seems somewhat ambiguous or hard to explicate, that is because it is. It likely was even for the inhabitants of the area. As outlined in the opening chapter of this work, liminality – like practice theory and the anthropological theory of art – is a conceptual device, not an explanatory one. It is discursive, fluid and situation – not the simplified, unilineal description of an individual’s transition from one identity to another that it once was (van Gennep 1909; Turner 1969). Reiterating Thomassen’s statement used in chapter one, liminality “serves to conceptualize moments where the relationship between structure and agency is not easily resolved or even understood within the, by now classical ‘structuration theories,’” (2009:5). As a conceptual device combined with the theories of structuration and object agency outlined above, liminality has great relevance in examining protohistoric archaeological contexts. As this work demonstrates, during liminal periods, agency – including object agency – gains significance in identifying, employing and embodying creative or new ways of reordering or restructuring the world and its meaning. While liminality can’t explain *why* things changed as they did in the Arkansas Valley, when combined with the insight provided from the previous discussion and present data, it provides an interpretive framework for accounting for some of the ambiguity in social dynamics and human interaction with material culture that exists during this period in the region. Even if it is difficult to characterize in times of cultural change, agency rises to the foreground in liminal situations. This principle has been a key component since the

early use of liminality as a conceptual construct (Turner 1969). I suggest that within such liminal, transformative periods, especially ones such as the protohistoric in the Central Arkansas River Valley, in which important demographic categories of elders were obliterated by waves of disease and transformation to capitalist economies (thereby undermining or obliterating social categories of leadership such as ceremonial leaders, artisans, craft specialists, and social historians), the agency of objects and images is even more powerful – as those are the most easily accessible and recognizable means of referencing or reorganizing the previously ordered world.

The concept of liminality, while originally constructed to examine individual response to transformative events via ritual and ceremony, also provides a lens for examining the reaction of an entire society to transformative events. Liminality shifts the focus of sociocultural analysis “away from fixed subjects ‘acting,’ or ‘choosing’ among fixed structures,” (Szakolczai 2009:158). This follows the model of culture and structure outlined above. Arped Szakolczai further characterizes the nature of a transformative event:

“A transformative event, as a technical term for sociological analysis, can be defined as something that happens in real life, whether for an individual, a group, or an entire civilization, that suddenly questions and even cancels previously taken for granted certainties, thus forcing people swept away by this storm to reflect upon their experiences, even their entire life, potentially changing not only their conduct of life but their identity. The degree and direction of the change depends on a number of factors: the strength and extent of the change and of the surviving fragments of previous identities, the existence of external reference points that remained more or less intact, and the presence or absence of new models, forms or measures,” (2009:158).

Modern conceptions and uses of liminality have expanded greatly from its initial use in anthropology. “Speaking very broadly, liminality is applicable to both space and time. Single moments, longer periods, or even whole epochs can be liminal,” (Thomassen 2009:16). Current

approaches largely assume that liminality can apply to individuals, groups, whole cultures, geographic places or periods in time. Bjorn Thomassen outlines dimensions of liminality that can be used to interpret human behavior in given situations: subject (individual, group, social/civilization), temporal (moments, periods, epochs) and spatial (specific place, areas, country/continents). These dimensions are somewhat arbitrary, as it is difficult – especially for the archaeologist – to distinguish between the moment and the period, or the threshold and the locality, for example (Thomassen 2009:15-17). For the most part, liminal experiences occur on the small scale, but on occasion they expand to include large numbers of people, extended periods of time or large areas. As Thomassen asserts: “Sometimes however, liminal experiences become intensified as the personal, group, and societal levels converge in liminality, over extended periods of time, and even within several spatial ‘coordinates,’” (2009:17-18).

This is a particularly useful concept to apply to the Protohistoric period in the Southeast, including the Central Arkansas River Valley. “If historical periods can be considered liminal, it follows that the crystallization of ideas and practices that take place during this period must be given special attention. Once liminality ends the ideas and practices that have become established therein will tend to take on the quality of structure,” (Thomassen 2009:20). This essentially characterizes the process of structuration discussed above. This is also evidenced by the changes in material culture in the Central Arkansas River Valley. Documentary evidence suggests that Native American groups across the Southeast entered into a liminal phase after initial European contact and emerged two hundred years later more closely resembling the modern tribal configurations recognized today. The process through which this type of cultural change occurs is outlined by structuration theory. How it is manifested in material culture is linked through the theory of object agency. Liminality provides a conceptual lens through which

to link historical events to this process. This provides a framework to examine several possible changes that occurred in communities such as those in the Carden Bottoms vicinity during the protohistoric period.

Liminality and Material Culture. Can liminality contribute to the interpretation of the change in material culture, namely the changing use of artistic media? Recent literature suggests that during liminal periods people's interaction and conception of the material aspects of life shift on occasion. Arpad Szakolczai has acknowledged the role of imitation in navigating and exiting socially liminal situations. "A real-life situation of transition – unless meticulously regulated by law, as in political elections – starts by a weakening and eventual suspension of the ordinary, taken-for-granted structures of life. The search for a solution usually involves an escalating process of imitation," (Szakolczai 2009:156). While he is addressing the process of political change, the juncture between political and sociocultural change (structuration) and its reflection in material culture provide an avenue to extend this notion to representation in material objects and imagery. The inhabitants of Carden Bottoms never saw the engraved shell cups that were interred at the Spiro site two hundred years earlier, or the gorget from Castilian Springs, or even the engraved pottery vessels from the Mineral Springs site. Yet – two hundred years later, they were still using the same motifs in different ways, via different media. It is clear that continuity exists between ideas shared across a wide geographic regions, part of the Mississippian Ideological Interaction Sphere and their protohistoric descendants at sites like Carden Bottoms. If people are drawing from a larger shared ideology, a part of existing and past cultural structure, this is clearly not imitation. However, as evidence from copper, shell and the shift in artistic mediums possibly indicates, categories of artistic specialists and schemas/resources that direct artistic production were undermined during the protohistoric

period, indicating that some objects represent imitation, not production from fully internalized, understood categories of production. It is an idea worth bearing in mind when examining protohistoric collections archaeologically.

It has also been suggested that creativity increases during liminal periods. Turner identified this within individual “liminoid” moments or periods within modern society (1982). His work in *From Liminal to Liminoid* (1982) examines liminality’s role in material and dramatic art, suggesting that within art “we recreate ‘life in the conditional,’ the playful,” (Thomassen 2009:15 citing Turner 1982). Recent approaches recognize the oversimplification with portions of Turner’s characterization. However, the notion that artists at Carden Bottoms were recreating “life in the conditional” via imagery from the recent past, in newly creative manifestations during this liminal period is supported by the data and process of material structuration previously presented. Szokolczai (2009:166) also points out the significance of ambivalence within liminality that spurs creative potential: “Ambivalence means that while liminal situations and positions can contribute to creativity or the renewal of institutions and structures that have become oppressive or simply tired, liminality also implies deep anxiety and suffering for all those entering such a stage. The stimulation of creative potentials is inseparable from tragic experiences.” It’s impossible to know the level of ambivalence or anxiety that was experienced by artists and recipients at sites like Carden Bottoms during the protohistoric period, but one can imagine that it was (at times) not an insignificant factor in structuration.

If liminality results in the “appearance of new structures, identities, or ideas,” (Szokolczai 2009:159) then it can be said that the liminal conditions of the protohistoric period resulted in new manifestations of old ideas in material culture, such as those in the Carden Bottoms vicinity. This has also been acknowledged at protohistoric sites across the region (Kidder 1988,

Trubowitz ed. 1984). The sudden co-occurrence of previously separated types of ceramics and modes of decoration in the same cultural contexts in the Arkansas River Valley may also be a result of this.

Liminality serves as an additional lens through which to examine cultural change in the Arkansas River Valley, particularly highlighting the increased significance (or agency) that objects, images and art works embody during such times, and to link this manifestation in material culture interpretively to historic events. However, it is not a replacement for the analytic models previously outlined. In fact, much of the discussion and use of liminality within anthropological contexts today views cultural change in much the same way as structuration spurred by events, eventful structuration if you will. The benefit lies in its ability to interpretively link historical events and situations to cultural practice, material production, and the power that imagery and objects embody during transformative times – thus allowing inference about the possible habitus of past people where little or no ethnographic information is available.

Summary

Imagery and objects had agency within the process of structuration and daily practice in the liminal protohistoric Central Arkansas River Valley. Unexpected events, such as the arrival of Europeans, integration into the new frontier economy, widespread waves of disease and increased conflict and slave raiding contributed to the liminality of the region's inhabitants and the subsequent action and reaction that fuels structuration. This examination alone does not fully clarify exactly what was taking place culturally at Carden Bottoms and neighboring sites in the early seventeenth century, but it provides a definite beginning. Further information, especially contextual information from contemporary neighboring sites and earlier Mississippian locations

will help solidify the interpretation of cultural change evidenced in material objects and imagery in the Arkansas River Valley.

CHAPTER EIGHT: SUMMARY OF RESULTS, FURTHER RESEARCH AND “BIG” QUESTIONS

At the onset of this analysis, a few primary questions were identified: 1) what is the characteristic regional “style” of Protohistoric artistic production in the Central Arkansas River Valley, 2) do objects have agency, and 3) how is the social change of the Protohistoric period in the Central Arkansas River Valley manifested and propelled via material objects? In order to answer these questions, a great deal of analysis and comparative examination of was necessary. However, this too provided insights previously missing from archaeological interpretation in the Arkansas River Valley.

The Dardenne Style of painted art that originated in the Carden Bottoms locality during the protohistoric period features motifs that have been part of artistic production and ideology for hundreds of years rendered in different manners on painted vessels or in simplified ways in painted rock art around this locality. The overall ceramic assemblages represented by sherds from Carden Bottoms and in whole vessels from the region now in museum collections demonstrate a great deal of similarity in formal variation, or style. The ceramics from this region are predominantly shell tempered and are commonly painted bottles or bowls. Large bowls or jars with incised or crenelated rims are also common, and judging by carbonized remains on excavated sherds of this kind, appear to be the dominant utilitarian vessels in the region. Comparison between the sherds and whole vessels suggests that most engraved vessels in the assemblage may represent imports from neighboring regions. Evidence from burials excavated at the Kinkead-Mainard and Isgrig sites supports this interpretation. Certain categories, such as effigy vessels and “head pots” are difficult to characterize within this analysis. Furthermore, “hybridized” vessels are present within the assemblages. They are most commonly in the form of bottles or bowls that are made on local paste and replicate decorative techniques and motifs

typically found on contemporary and earlier Caddo vessels from sites to the southwest. Unfortunately, this feature of ceramic production is difficult to quantify and the current parameters of documentation used in this analysis did not adequately account for it. It falls into a category of human relational knowledge that is difficult, if not impossible for an external analyst to empirically quantify accurately. Now that this inadequacy in documentation has been identified, future research may be able to more adequately account for it. It is a worthwhile topic to pursue. Cultural hybridization commonly occurs in liminal situations (Szokolczai 2009, Thomassen 2009, Turner 1969). The principles illustrated in the previous chapter suggest that this may subsequently be reflected in material objects as well. If this is the case, and ceramic hybridization can be sufficiently identified and quantified within the assemblages, it holds great potential for interpreting Protohistoric sociocultural structuration.

Perhaps the most striking commonality within the ceramic assemblage is the consistent correlation between placements of motifs on the sides of vessels that, in turn form a different motif in the superior or inferior view. Consistently, regardless of decorative technique or technique, interlocking scrolls around the sides of bottles form a pulled square in the superior and inferior view. Triangles and triskelions are also depicted in this same way. These same motifs have been used on material in the region, and across the Southeast, for hundreds of years. This analysis demonstrates that the practice of correlating specific motifs via placement and visual perspective became commonplace in this region in the Protohistoric period, to such a degree that it represents one of the hallmarks of ceramic production in the area during this time. Certain motifs, and their relationships to vessel structure, form a cadre of leitmotifs that are repeated on numerous vessels and in rock art in the Arkansas Valley.

Once a sound, empirical characterization of the protohistoric ceramics of this region was defined, and its relationship to neighbors in time and space established, questions about how changes in culture may be manifested in these vessels and the images that they display were addressed. These categories of examination - the intersection between people and things at specific points in time, the power of objects in society and cultural change and how change happens to cultural structure over time and because of events – are notoriously difficult and contentious within the discipline of archaeology. It requires a combination of whole vessels and tightly controlled excavated data that provides information about the production of those vessels at a given time in a specific locality. The recent work in the Arkansas River Valley has made this type of investigation possible. Ironically, assemblages of looted vessels previously considered to have little to no research value, formed the core of the interpretive data for this analysis.

The picture of the Central Arkansas River Valley during the protohistoric that emerged from this analysis is not particularly dramatic in what it suggests. In the Carden Bottoms vicinity at least, it reveals a picture of a community relying on established traditions for building large houses, producing large amounts of decorated pottery vessels and embellishing the bluffs of the surrounding hills with rock art images. Evidence also suggests that the inhabitants of this community exchanged goods in the still developing frontier exchange economy, and therefore likely had indirect contact with European newcomers. Even in this place that seems so far from the epicenters of European settlement in the early seventeenth century, the impact of contact and European settlement was present. It remains uncertain exactly how, but the people at Carden Bottoms were impacted by the elements of the “shatter zone,” that radiated across the Southeast in successive waves from the arrival of de Soto’s entrada until the early nineteenth century.

Disease epidemics, slave raids and destabilization of traditional social, political and ceremonial power structures placed virtually all Native American societies in the eastern woodlands into varying degrees of liminal states by the seventeenth century. The residents of Carden Bottoms likely felt the impacts of these events as well.

By viewing cultural change as a process of structuration, of people drawing from as much of the “known” practice (including schemas and resources) as possible and improvising or adapting to transformative events using human agency when they’re not, a framework for conceptualizing cultural change in the Central Arkansas River Valley is defined. Daniel Miller and Nigel Barley establish that categories of material culture can reflect other categories of sociocultural structure. Working with this assumption, and applying the theory of object (art) agency developed by Alfred Gell, it is possible to use the whole vessels and the motifs present on them to interpret how the cultural institutions directing artistic production changed over time in the Arkansas Valley. Any interpretations about why these institutions changed or what it suggests about changes in other institutions that form the cultural structure are more grounded and informed through this approach.

Returning to the primary questions of object agency and the manifestation and continuance of social change via material objects, it is clear from this analysis that during liminal periods objects and images, such as the triskelion and pulled square, took on a prominent role in conveying the validity of centuries old notions about the origin and organization of the known universe for protohistoric peoples of the Central Arkansas River Valley. As this analysis demonstrates, objects and images (particularly in transformative periods) have agency and affect the course of structuration. Pottery vessels, rock art images, shell objects and even houses each represent, or become material embodiments of, categories of social structure (Miller 1985) in the

Central Arkansas River Valley, and the seemingly sudden, previously unexplained shifts in stylistic variation within these material categories is representative of parallel shifts in social categories of structural organization during the liminal protohistoric period. Motifs during this time were modified in new and unconventional ways in a variety of media as material metaphors of the fundamental changes that the sociocultural structure was simultaneously undergoing. Communities in this place and time used these images to reorganized themselves and reinforce the significance of the original ideas of origin and organization embodied by images such as the triskelion and pulled/looped square. It was as if, through new uses and applications of these images in new compositions, they reiterated to themselves: this is where we came from, this is who we are. To the residents of Carden Bottoms and its neighbors, pottery and rock art imagery, and the process of making it, viewing it and using it also served as way of ordering the world. This is a process observed in most Native American groups: “In Native American societies, art is not viewed as marginal, unessential, or extracurricular. Instead, art is viewed as a way of seeing the world and a way of being in the world,” (Witherspoon 1994:357).

The Mississippian and late prehistoric periods in the Central Arkansas River Valley are still something of an archaeological enigma. In order to fully understand how material culture changed in the Protohistoric period at Carden Bottoms, we need to more fully understand what the same categories of material culture looked like at that site in the periods immediately preceding the one under consideration herein. The material considered from Spiro, Mineral Springs and Standridge, provides a broad basis for comparison – enough to demonstrate the validity of the model used to interpret the questions under consideration by this analysis. However, an archaeological situation in which we are able to follow evidence from a more tightly defined locality backwards in time, directly tracking changes in ceramic and artistic

production would provided a much more informed, nuanced interpretation about cultural change in response to the transformative events of the protohistoric period. What was the “normal” of this recent past that the residents of Carden Bottoms transformed, reinterpreted and adapted to fit their changing world? Was the change sudden, abruptly manifesting itself in their pottery, rock art, shell, copper and other objects? This analysis provides a starting point to answer these questions. Future excavation of Mississippian sites near Carden Bottoms will help answer them.

This analysis does not define or speculate on the ethnicity of the inhabitants of Carden Bottoms or their neighbors in the Arkansas Valley. The association or identification of the residents of this area as “Quapaw,” “Caddo,” “Osage,” or “Tunican,” or a combination or other manifestation of ethnicity remains unknown. Identifying ethnicity archaeologically is a notoriously difficult, if not impossible, endeavor. It is particularly problematic to attempt to investigate modern conceptions of ethnicity among Native American groups in historical settings. Such concepts, in many cases, do not apply to concepts of American Indian identity. Such concepts are often recognized along other categories or relationships such as kinship. For instance: “kinship in Sioux culture had no prescribed boundaries; as a system of potentialities it structured and provided a comforting sense of orderliness to the universe,” (DeMallie 1994:133). Furthermore, ethnographic studies of material culture production and relationships, such as those of Nigel Barley (1983), Daniel Miller (1985) and Scott MacEachern (1992) demonstrate that ethnic identity is recognized, both by those that possess it and those that recognize it, by a culmination of characteristics across multiple categories of manifested cultural institutions. MacEachern regards self-identification as a major indicator of ethnicity. His examination of ceramic “style” and production in the northern Mandara Mountains of Cameroon tracks the concept of “style” in ceramic production with regard to identification with ethnicity. “Ethnic

identification and self-identification appears to be statistical and contingent, and situationally variable,” (MacEachern 1992:214). As his work demonstrates, a young woman potter may self-identify with the ethnic identity that she has known her whole life, and subsequently produce pottery as part of the material manifestation or category (Miller 1985) associated with that.

When she marries, in a patrilineal society at least, and ventures to live with her husband’s family, the “style” of pottery she produces then reflects the “style” deemed appropriate by them. This does not mean that she forgets, abandons, or redefines all categories of her own, self-defined, ethnic identity (MacEachern 1992).

For decades, much of the research throughout the Central Arkansas River Valley focused on romantic notions of undiscovered de Soto sites or linking modern ethnicity to ancient people. By realigning our expectations and approaching this region with a different set of theoretical guidelines, we can transform the discussion to something more informative, if also more mundane. While it may not have the “wow” factor of identifying the lost city of Tanico, a more grounded archaeological interpretation of the region is all the more poignant for its relative normalcy. The archaeological history of the region becomes less about a search for the fantastic and more about the everyday stories of an ordinary people, and their struggle to survive in and integrate with extraordinary times.

Ethnicity is fluid, situational, and self-defined by individuals – representing a category of investigation difficult, if not impossible, for archaeologists to identify. The approach outlined here, of defining style based on specific categories of clearly identified formal variation, using that to track change in material culture over time and subsequently inferring how these changes are reflected (through structuration) in the cultural institutions that form structure via the agency of objects, provides an means for the archaeologist to truly discuss the *culture* of past people –

not just track changes in pot sherds and lithic tools across time and space. Archaeologists can examine the culture, social structure and process of cultural change in response to time and significant events. In fact, we should be pushing ourselves to do just this, as our anthropological roots demand; but we should endeavor to conduct our investigations with rigorous, clear-cut analytic models that clearly recognize their own limitations.

Further investigation of what “Quapaw” and “Osage” looks like archaeologically is needed before any true relationship between the material manifestations of these groups and the residents of Kinkead-Mainard, Goldsmith Oliver and Carden Bottoms can be clearly defined. Historical documentation provides detailed description of the Quapaw people and their villages near the mouth of the Arkansas River. We know where these villages may have been located, and limited excavations have suggested that intact archaeological features from the villages may be present. Approaching these sites, and the question of what “Quapaw” means archaeologically through the analytic lens presented here, including documenting the hundreds of vessels in museum collections from this locality and conducting controlled excavations with the intent of examining the materiality of cultural institutions such as ceramic and architectural production is necessary. Work here and elsewhere in the Arkansas River Valley will allow archaeologists to work backwards through time to begin to unravel the chaos of the Protohistoric period in Arkansas.

The value of drawing information from existing museum collections is apparent. These “old” collections have been considered to be limited in their ability to really inform archaeological questions about sociocultural process because of the lack of provenience from their looted context. However, as demonstrated here, it is not impossible to establish some context for them, even this far in the future. This doesn’t justify the circumstances of their

removal from the graves in which they were placed four hundred years ago. But, if we can use these items, now sitting in boxes and on shelves, so far removed from their purpose, to inform humanity about the people that lived here at this time and the consequences of unforeseen transformative events, then perhaps the current lives of these objects is not without homage to their human counterparts.

This work provides answers about traditional categories of inquiry (ceramic style, distribution and manufacture) in the Protohistoric Central Arkansas River Valley. It reaches past these standard archaeological areas of inquiry, pushing the information gained from them to interpret human behavior during tumultuous, transformative times. Furthermore, it demonstrates that in our daily lives, our habitus, objects have agency and during these transformative events, agency becomes the mechanism through which participants follow, adapt and use the rules and resources of their cultural institutions to navigate their way through liminality into a new structure.

Returning to the example of the smoke ceremony discussed in the introductory chapter, this is exactly what the inhabitants of sites like Carden Bottoms did. It's easy to think of their absence during the early historic period as "demise" of some sort. While it is true that the events of the Protohistoric period were catastrophic and forever altered the culture of the Native American residents of the Arkansas River Valley, it did not spell the end for them. The specific details of life for them after 1700 remain unclear, but in many ways they live on through the culture of their descendants in regional tribes today. The smoke ceremony and the agency of the image conveyed through it, demonstrate that even though people, places, leadership and practices change, people react to, process and accommodate these changes using imagery and objects, as well as other cultural institutions, to emerge from these changes as "normally" as

possible. Referring to songs and rituals of the Osage, Garrick Bailey's characterization of the continuance of Mississippian ideas in modern culture illustrates the process of social change over time demonstrated by the material culture described herein: "...so do the Osage people today still remember those things that are important. The underlying ideas, cultural values, and social norms expressed in these songs and rituals are still very much alive today, though now imbedded in new sociocultural practices and institutions," (2004:91). Structuration continues to happen – every day, through normal cultural practices – but occasionally, as demonstrated herein, unforeseen (sometimes cataclysmic) events happen that thrust the material manifestations of our routine into the extraordinary and endow these objects with the power necessary to shape the direction future.

While a bit overgeneralizing, Marshall McLuhan characterizes this phenomenon of human behavior well: "The past went that-a-way. When faced with a totally new situation, we tend always to attach ourselves to the objects, to the flavor of the most recent past. We look at the present through a rear view mirror. We march backwards into the future, (1967:74-75)." The people at Carden Bottoms were doing much the same. When faced with wave after wave of events that necessitated reaction or adaptation (both big and small) they did so using imagery from their past and the lives their ancestors – drawing from this collective past to reproduce the "norm" as best they know how. Through shell, copper, pottery vessels, rock art and into the performance of modern ceremony, Native American groups with ties to the Arkansas Valley have drawn from objects and images to order, interpret and reshape their world.

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APPENDIX A: RADIOCARBON RESULTS, 3YE0025

	BETA ANALYTIC INC. DR. M.A. TAMERS and MR. D.G. HOOD	4985 S.W. 74 COURT MIAMI, FLORIDA, USA 33155 PH: 305-667-5167 FAX:305-663-0964 beta@radiocarbon.com
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REPORT OF RADIOCARBON DATING ANALYSES

Mr. George Sabo

Report Date: 1/31/2012

Arkansas Archeological Survey

Material Received: 1/11/2012

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 314057 SAMPLE : 2011-400-372 ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid 2 SIGMA CALIBRATION : Cal AD 1660 to 1710 (Cal BP 290 to 240) AND Cal AD 1720 to 1830 (Cal BP 230 to 120) Cal AD 1830 to 1890 (Cal BP 120 to 60) AND Cal AD 1910 to post 1950 (Cal BP 40 to post 1950)	150 +/- 30 BP	-24.2 o/oo	160 +/- 30 BP

Dates are reported as RCYBP (radiocarbon years before present, "present" = AD 1950). By international convention, the modern reference standard was 95% the 14C activity of the National Institute of Standards and Technology (NIST) Oxalic Acid (SRM 4990C) and calculated using the Libby 14C half-life (5568 years). Quoted errors represent 1 relative standard deviation statistics (68% probability) counting errors based on the combined measurements of the sample, background, and modern reference standards. Measured 13C/12C ratios (delta 13C) were calculated relative to the PDB-1 standard.

The Conventional Radiocarbon Age represents the Measured Radiocarbon Age corrected for isotopic fractionation, calculated using the delta 13C. On rare occasion where the Conventional Radiocarbon Age was calculated using an assumed delta 13C, the ratio and the Conventional Radiocarbon Age will be followed by "**". The Conventional Radiocarbon Age is not calendar calibrated. When available, the Calendar Calibrated result is calculated from the Conventional Radiocarbon Age and is listed as the "Two Sigma Calibrated Result" for each sample.

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-24.2;lab. mult=1)

Laboratory number: **Beta-314057**

Conventional radiocarbon age: **160±30 BP**

2 Sigma calibrated results: Cal AD 1660 to 1710 (Cal BP 290 to 240) and
(95% probability) Cal AD 1720 to 1830 (Cal BP 230 to 120) and
Cal AD 1830 to 1890 (Cal BP 120 to 60) and
Cal AD 1910 to post 1950 (Cal BP 40 to post 1950)

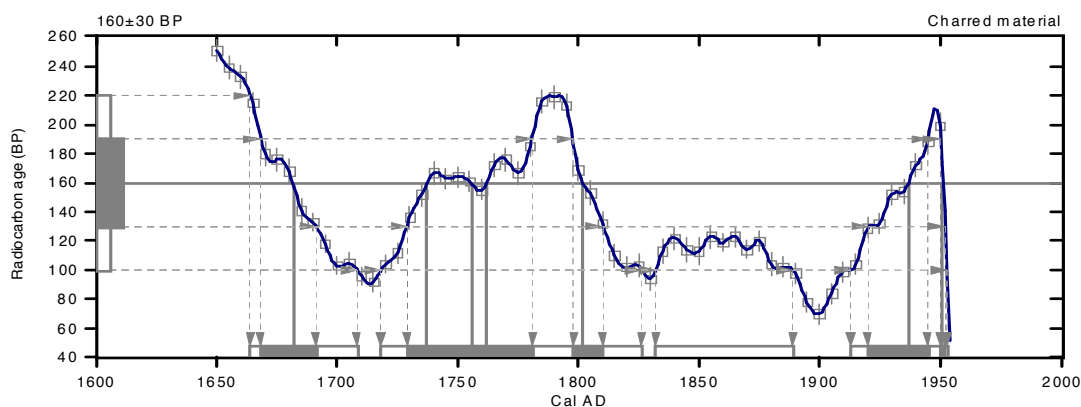
Intercept data

Intercepts of radiocarbon age
with calibration curve:

Cal AD 1680 (Cal BP 270) and
Cal AD 1740 (Cal BP 210) and
Cal AD 1760 (Cal BP 190) and
Cal AD 1760 (Cal BP 190) and
Cal AD 1800 (Cal BP 150) and
Cal AD 1940 (Cal BP 10) and
Cal AD Post 1950

1 Sigma calibrated results:
(68% probability)

Cal AD 1670 to 1690 (Cal BP 280 to 260) and
Cal AD 1730 to 1780 (Cal BP 220 to 170) and
Cal AD 1800 to 1810 (Cal BP 150 to 140) and
Cal AD 1920 to 1940 (Cal BP 30 to 0) and
Cal AD 1950 to post 1950 (Cal BP 0 to post 1950)



References:

Database used

INTCAL09

References to INTCAL09 database

Heaton, et al., 2009, *Radiocarbon* 51(4):1151-1164, Reimer, et al., 2009, *Radiocarbon* 51(4):1111-1150,

Stuiver, et al., 1993, *Radiocarbon* 35(1):137-189, Oeschger, et al., 1975, *Tellus* 27:168-192

Mathematics used for calibration scenario

A Simplified Approach to Calibrating C14 Dates

Talma, A. S., Vogel, J. C., 1993, *Radiocarbon* 35(2):317-322

Beta Analytic Radiocarbon Dating Laboratory

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REPORT OF RADIOCARBON DATING ANALYSES

Mr. George Sabo

Report Date: 2/6/2012

Arkansas Archeological Survey

Material Received: 1/11/2012

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 314055 SAMPLE : 2011-400-066 ANALYSIS : RadiometricPLUS-Standard delivery MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid 2 SIGMA CALIBRATION : Cal AD 1490 to 1600 (Cal BP 460 to 350) AND Cal AD 1610 to 1650 (Cal BP 340 to 300)	260 +/- 30 BP	-22.6 o/oo	300 +/- 30 BP
Beta - 314056 SAMPLE : 2011-400-128 ANALYSIS : RadiometricPLUS-Standard delivery MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid 2 SIGMA CALIBRATION : Cal AD 1520 to 1590 (Cal BP 430 to 360) AND Cal AD 1620 to 1660 (Cal BP 330 to 290)	240 +/- 30 BP	-22.3 o/oo	280 +/- 30 BP

Dates are reported as RCYBP (radiocarbon years before present, "present" = AD 1950). By international convention, the modern reference standard was 95% the 14C activity of the National Institute of Standards and Technology (NIST) Oxalic Acid (SRM 4990C) and calculated using the Libby 14C half-life (5568 years). Quoted errors represent 1 relative standard deviation statistics (68% probability) counting errors based on the combined measurements of the sample, background, and modern reference standards. Measured 13C/12C ratios (delta 13C) were calculated relative to the PDB-1 standard.

The Conventional Radiocarbon Age represents the Measured Radiocarbon Age corrected for isotopic fractionation, calculated using the delta 13C. On rare occasion where the Conventional Radiocarbon Age was calculated using an assumed delta 13C, the ratio and the Conventional Radiocarbon Age will be followed by "**". The Conventional Radiocarbon Age is not calendar calibrated. When available, the Calendar Calibrated result is calculated from the Conventional Radiocarbon Age and is listed as the "Two Sigma Calibrated Result" for each sample.

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-22.6;lab. mult=1)

Laboratory number: **Beta-314055**

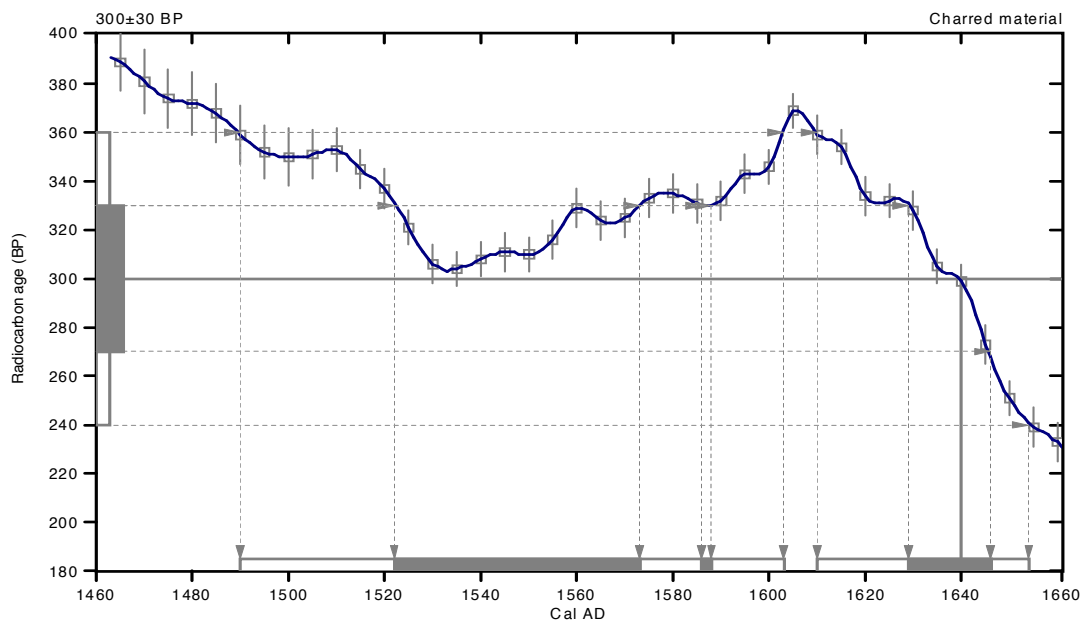
Conventional radiocarbon age: **300±30 BP**

2 Sigma calibrated results: Cal AD 1490 to 1600 (Cal BP 460 to 350) and
(95% probability) Cal AD 1610 to 1650 (Cal BP 340 to 300)

Intercept data

Intercept of radiocarbon age
with calibration curve: Cal AD 1640 (Cal BP 310)

1 Sigma calibrated results: Cal AD 1520 to 1570 (Cal BP 430 to 380) and
(68% probability) Cal AD 1590 to 1590 (Cal BP 360 to 360) and
Cal AD 1630 to 1650 (Cal BP 320 to 300)



References:

Database used

INTCAL09

References to INTCAL09 database

Heaton, et al., 2009, *Radiocarbon* 51(4):1151-1164, Reimer, et al., 2009, *Radiocarbon* 51(4):1111-1150, Stuiver, et al., 1993, *Radiocarbon* 35(1):137-189, Oeschger, et al., 1975, *Tellus* 27:168-192

Mathematics used for calibration scenario

A Simplified Approach to Calibrating C14 Dates
Talma, A. S., Vogel, J. C., 1993, *Radiocarbon* 35(2):317-322

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-22.3;lab. mult=1)

Laboratory number: **Beta-314056**

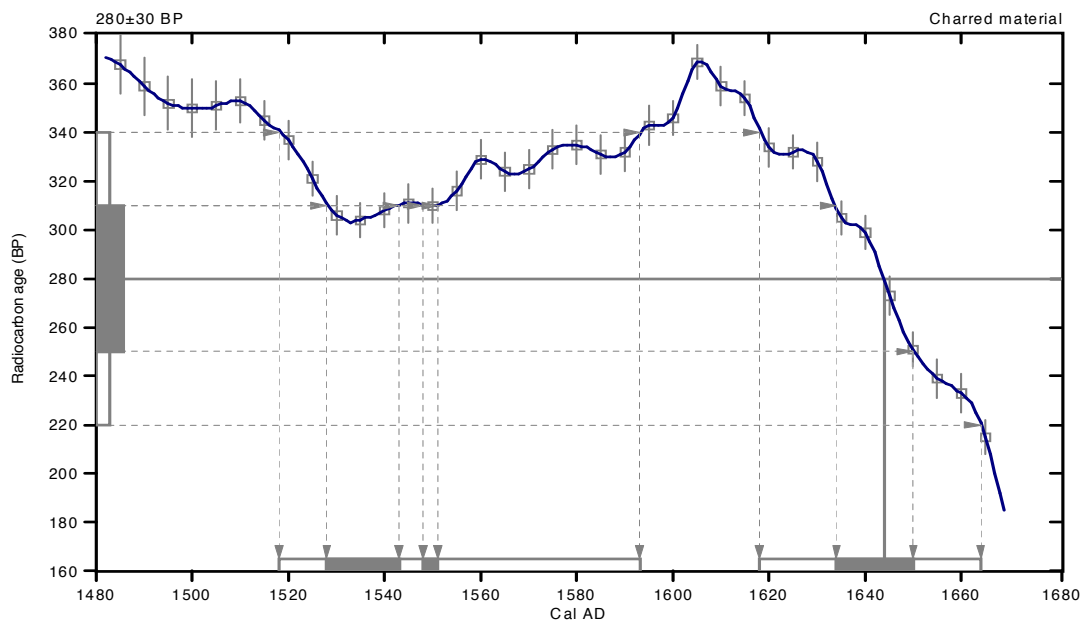
Conventional radiocarbon age: **280±30 BP**

2 Sigma calibrated results: **Cal AD 1520 to 1590 (Cal BP 430 to 360) and
(95% probability) Cal AD 1620 to 1660 (Cal BP 330 to 290)**

Intercept data

Intercept of radiocarbon age
with calibration curve: **Cal AD 1640 (Cal BP 310)**

1 Sigma calibrated results: **Cal AD 1530 to 1540 (Cal BP 420 to 410) and
(68% probability) Cal AD 1550 to 1550 (Cal BP 400 to 400) and
Cal AD 1630 to 1650 (Cal BP 320 to 300)**



References:

Database used

INTCAL09

References to INTCAL09 database

Heaton, et al., 2009, *Radiocarbon* 51(4):1151-1164, Reimer, et al., 2009, *Radiocarbon* 51(4):1111-1150, Stuiver, et al., 1993, *Radiocarbon* 35(1):137-189, Oeschger, et al., 1975, *Tellus* 27:168-192

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APPENDIX B: CERAMIC VESSEL DOCUMENTATION FORM AND GLOSSARY

Ceramic Vessel Documentation Form

Site No: _____ Site Name: _____ County: _____ Project: _____ Date: _____
 Accession No: _____ Vessel No: _____ Facility/Collection: _____ Analyst: _____
 Other Catalog Info: _____ Assoc. grave/feature: _____ Burial No: _____
 Authentic Inauthentic Authenticity Uncertain Description: _____ Compound Vessel
 Type: _____ Variety: _____ Citation: _____
 Type: _____ Variety: _____ Collegiate Pattern/rim: _____ body: _____
 Design names & nos.: _____

Check one of the following:

- Complete Complete, minor damage or repair Partial Sherds Altered, Recent
 Complete, reassembled (long term) Partial, reassembled (long term) Published type photo and/or description: _____
 Complete, reassembled (short term) Partial, reassembled (short term) Describe missing portions: _____

Color	
Exterior	_____
Interior	_____
Core	_____

Unit of measurement (cm/mm preferred, i.e. 00.00cm): _____

Cultural Affiliation: _____

Use wear on vessel (pre-depositional): _____ Continuous profile (rim/neck, neck/body, etc.)

Carbonized remains/encrustations: _____

Vessel: Shape: _____	Rim: Shape: _____	Angle: _____
Surface Treatment: (interior) _____ (exterior) _____	Height: _____	Diameter: _____ Thickness: _____
Height: _____ Max diameter: _____ at: _____	Rim mode: _____	Surface treatment: _____
Weight: _____ unit of measurement: _____	Decorations: _____	<input type="checkbox"/> Compound Rim - describe both parts above
Volume: _____ unit of measurement: _____	Neck: Shape: _____	Height: _____ Orifice diam: _____ Thickness: _____
Paste: _____	Observation Method: _____	Mid exterior diam: _____ base exterior diam: _____
Temper: _____	Lip: Shape: _____	Angle: _____ Thickness: _____
Surface treatment: _____	Surface treatment: _____	Decorations: _____

Accession No: _____

Body: Shape: _____
 Height: _____ Diameter: _____ Thickness: _____
 Body Mode: _____
 Surface treatment: _____
 Decoration: _____

Base: Shape: _____ Curvature: _____
 Diameter: (top of base) _____ (bottom of base) _____
 Surface treatment: _____
 Decoration: _____

Effigy description (if applicable): _____

Handle: Shape: _____
 Decoration: _____

Appendages: _____

Click on graph to insert digital photo if available. Include scale with sketch (if different than 1 cm).
 vessel sketched on written form
 digital form only
 written form also, no sketch

1 cm

Current Photo Numbers: _____
 Black & White: _____
 Color Slide: _____
 Digital: _____

Other Photo/Negative Numbers: _____
 Black & White: _____
 Color Slide: _____
 Digital: _____

Photographer: _____
 Photographer/Publication: _____

Other comments: _____

Glossary for Ceramic Vessel Documentation Form

General Notes:

- Try to fill out as much of the provenience and project information (located on the top three lines of the form) as possible – especially accession or vessel number.
- If you are uncertain about type and variety, leave it blank. It can most often be filled in at a later date using the information recorded on this form, as well as photographs. If you feel that a vessel may belong to a certain type/variety, but are unsure, note that in one of the general comment fields. The same holds true for cultural affiliation.
- Make sure to note the unit(s) of measurement that you are using. Grams and centimeters are most commonly used, but millimeters are used as well. Make a note of which you're using, or note it in next to the measurement if you change.
- Make note of any pre-depositional use wear or carbonized material that may be present on the vessel.

Vessel Condition:

- Choose one of the check boxes that best describes the condition of the vessel. Complete means whole, undamaged. Many vessels fall into the complete with minor damage or repair category. This includes minor breaks, chips, scratches, etc. that may or may not have been repaired. For example: plow scars or probe holes in the body, or small breaks or chips in the appendages or rim of a vessel. If portions of the vessel are missing, for example if it appears to have been fragmentary when found and is only partially reconstructed, describe the missing portions as best you can (i.e. "body only, neck/rim missing," etc.).

Color:

Record colors using the Munsel soil color book. These colors, while less subjective than individual description, are still subjective based on each individual analyst. Record the text description for the colors only, not the munsel number.

Temper:

- **Note: There may be more than one kind of temper present.**
- Temper consists of inclusions (sand, grit, pulverized shell, pulverized fired clay, stone, bone, etc.) that are added to potter's clay in order to give added strength or workability to the clay. Vessels are occasionally (very rarely) constructed with clay that does not include any temper.
- It is often very difficult to determine the temper of clay on a whole vessel. Look for a chip or break, look carefully around the rim or for any worn surfaces. These areas often provide a better look at the paste. If none of these are available, using a loupe or magnifying glass, study various area on the surface of the vessel for any indication of temper.
- NOTE: The following descriptions of temper are a good start in helping to identify what may have been used to temper clay. However, the best way to learn temper identification is through hands-on, repeated examination, often with a microscope. Once you feel comfortable with the various tempers identified in your assemblage, it's a good idea to set aside representative samples for comparison as you continue analysis, if possible. This ensures consistency. However, this is often impossible when working with whole vessel, museum collections.
- Shell – this will appear as white particles, often laminar in shape. Many times the particles are still somewhat iridescent and resemble shell. Very often the actual shell has been leached away by acids in the soil and only laminar, or flat, voids of varying shapes and sizes remain. Shell may be burned and pulverized into very fine, tiny particles, or it may be simply heated and crushed, resulting in large, flaky pieces, evident as either flakes in the clay or as large, flat voids.
- Sand – Sand tempered vessels are often thicker and heavier than those tempered with other materials. The sand is evident in the clay, both in feel (gritty) and to the eye.
- Grit – It's often difficult to determine if grit is included in ceramic paste intentionally or as a result of natural or manufacturing processes. Clays often naturally occur in areas in which the surrounding stratigraphy includes

other water lain sediments that include tiny pieces of chert, limestone or other rock and sand. These may sometimes become imbedded with the clay either naturally or during processing. Under magnification grit temper will appear as tiny rocks, stones or pieces of angular debris in the clay.

- Grog/fired clay – This temper appears as dull, angular shaped, pulverized pieces of burned clay. It is most often made from the broken sherds of previously fired vessels. The pieces will appear in the same color families, buffs, blacks, red, yellows, gray, etc. as other fired clay. These vessels are also often heavier and thicker than shell tempered ones. Sometimes grog shows its own temper.
- Bone – Bone tempering will often appear as white, off white or grayish white, angular flecks or pieces in the clay. If it has burned or leached away, the voids will be more angular, rather than laminar as in shell tempering. The temper is made from burned, pulverized bone.

The following categories correspond to the “Ceramic Vessel Documentation Form.” For increased data consistency, please choose from the terms outlined below when completing the form.

Surface Treatment – Separate from Decoration. Choose one:

This refers to how the surface of the pot was prepared or treated. It can be none, smoothed, burnished or polished.

- **Smoothed** – the surface appears to have been smoothed, or “wiped” with a hand or other tool. It is generally not shiny.
- **Burnished** – the surface has had a smoothing or burnishing stone worked over the surface. It reflects some light and the linear marks left by the process are sometimes visible.
- **Polished** – the surface is reflective and very smooth and regular.

Paste – Choose one from each of the following pairs (i.e. compact, hard, smooth):

This refers to the fabric of the clay in its current form. There are three categories, and the options for each are:

- **Compact** or **crumbly**
- **Soft** or **hard**
- **Smooth** or **gritty**

Observation Method:

This refers to the observation method of the temper and where on the vessel it was observed. Eye, loupe, microscope, etc.

Vessel Shape – Choose one that best fits:

General Guide (Derived from Phillips, Ford and Griffin 1951)

- **Jars:**
 - o Generally taller than wide
 - o Generally a marked angle between body and rim
 - o Jars can have very short necks (usually short and wide relative to body dimensions)

Some common jar forms are illustrated below.



- **Bottles:**
 - o All bottles have necks, of varying height or diameters relative to the body (but narrower relative to the body than rims on jars)



- **Bowls:**
 - o Generally wider than tall
 - o Generally have unrestricted or less restricted opening



Other vessel shape terminology – The following descriptive terms are combined with the general vessel shape to identify particular types of vessels:

- Carinated – refers to bowls with rims that turn abruptly inward. Write “carinated bowl,” on form.



- Carafe shaped – refers to bottles that have no distinction between body neck and rim profiles. There is a check box on the form for “continuous profile.”



- Effigy vessels – commonly identified as one of the forms above, but modeled into a representation of something. Write on form as “effigy bowl, effigy bottle, jar with effigies, etc.”



Effigy bottle



Effigy bowl

- Compound vessels - appears as multiple vessel parts or multiple types of vessels joined as one. There is a check box on the form for “compound vessel.”



- Bipod, Tripod or Quadruped vessels – have lobes extending off of the body as “legs.” Write on form as “tripod bottle, bipod bottle, tripod bowl,” etc.



Lip Shape – Choose one or more of the following:

- The lip refers to the very edge of the orifice.
- **Rounded** – edge is rounded and smooth
- **Flat** – edge has been pressed flat and smooth
- **Beveled** – edge has been pressed flat on a side (interior, exterior)
- **Rolled** – the wet clay was rolled over the edge during construction, sometimes neatly with clean edges, other times not
- **Thickened** – thickness greater than rim

Lip Angle – Choose one of the following:

- Everted** – turns outward, distinguishable
- Slightly everted** – gently turns outward, very slight
- None** – no change in angle between rim and lip

NOTE: Compound Rims - In some instances, a vessel may have a compound rim, in which the rim changes direction distinctly from one orientation to another. In these cases, please note that by checking the box in the rim section on the vessel documentation form.

Rim Shape – Choose one of the following:

- **Straight** – no curvature
- **Concave** – exterior surface, curves out
- **Convex** – exterior surface, curves in

Rim Angle – Choose one of the following:

- **Vertical** - straight up
- **Outslanted** – turns outward
- **Inslanted** – turns inward
- **Carinated** – specific instances in which the large rim (often beginning at approximately half the height of the vessel) inslants sharply away from the convex body

Rim Mode – Choose at least one:

This sometimes refers to a decorative typology based on patterns and designs in Caddo ceramics. For the CARV project we're using this field to denote decorative technique. Descriptions of these techniques are provided at the end of this glossary.

- | | | | | |
|------------------|-------------------|--------------------|-------------------|----------------------|
| - Incised | - Engraved | - Punctated | - Notched | - Painted |
| - Brushed | - Stamped | - Noded | - Applique | - Undecorated |
| - Trailed | - Pinched | - Etched | | |

Neck Shape – Choose one of the following:

- **Vertical** – simple cylinder or tube
- **Spool** – cylinder with outslanted rim/lip
- **Bulbous** – bulge in the middle of neck
- **Insloping** – narrows inward toward the orifice
- **Outsloping** – flares outward from the body
- **Inslanting** – turns inward toward orifice sharply
- **Outslanting** – turns outward from body sharply
- **Carafe** – generally insloping at body then turns to outsloping mid-way toward the lip

NOTE:

Many vessels in the CARV collections have continuous profiles between the rim and body or rim, neck and body. This is usually clear when you view the vessel in profile and cannot make clear demarcations between the portions of the vessel. In this case, make sure you check the box for this on the documentation form.

Body Shape – Choose one of the following:

- **Globular** – round, globe shaped (jars, bowls or bottles)
- **Sub-globular** – widest around mid-point, compressed globe (jars, bowls, or bottles)
- **High-waist** – widest above the middle (jars or bottles)
- **Low-waist** – widest below the middle (jars or bottles)
- **Convex** – half-circle, widest portion toward the orifice (bowls)
- **Concave** – half-circle, widest portion toward the base (bowls)
- **Elongated** – resembles a horizontal oval or half an oval
- **Cylindrical** – straight, cylinder shaped
- **Effigy** – use, along with other terms, when describing a body that has been molded into a representative form
- **Barrel** – slants inward toward the orifice and base with the widest portion at approximately the mid-body
- **Conical** – slants sharply toward either the orifice/neck or base
- **Compound** – form of the body changes shape dramatically, two vessels joined, etc. Please note this with the checkbox on the form and describe each portion of the vessel separately.
- **Biconical** – widest at mid-body, narrows sharply toward neck and base
- **Ovoid** – widest at middle, taller than wide

Body Mode – Choose one or more:

This often sometimes refers to a decorative typology based on patterns and designs in Caddo ceramics. For the CARV project we're using this field to denote decorative technique. For example: incised, engraved, punctated, notched, etc. See list of decorative techniques under rim mode or below.

Base Shape – Choose one of the following:

- **Undistinguished** – no sharp demarcation between base and body
- **Circular** – defined circular base
- **Square** – defined square base

Base Curvature – Choose one of the following:

- **Concave** – turns inward toward interior of vessel
- **Convex** – turns outward away from interior of vessel
- **Flat**

Special Base Categories – Choose one and record in curvature blank if necessary:

- **Pedestal** – marked raised pedestal on which the body rests
- **Footed**

Appendages – Choose from the following terms:

- **Handles**
 - o Loop handles – rounded loops applied to vessel
 - o Tabular handles – flat tabs, often on the rim
 - o Strap handles – flat, or flatter handles formed into loops on vessel
 - o Lug handles
- **Nodes**
 - o Round – raised round “balls” or nodes applied to vessel
 - o Irregular, varying – shape varies
- **Arcades** – thin, shaped straps repeated continuously around the neck or rim of a vessel

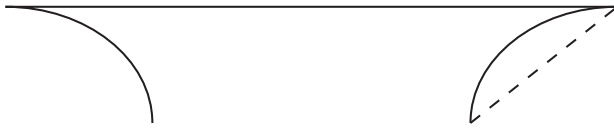
Decorative Technique Terminology:

- Incised – tool is used to incise decoration into wet clay
- Trilled – smooth tool is used to make lines in wet clay – lines are wider than they are deep
- Engraved – tool is used to etch decoration into completely dried surface of vessel
- Punctated – tool is used to poke decoration into surface of wet clay – can be round, square, reed, shell, fingernail, etc.
- Notched – most often describes notches made into lip or rim
- Slip – clay/pigment mixture is applied to most of the exterior surface of a vessel – solid surface of color
- Painted – clay/pigment mixture is applied to vessel surface in a pattern or design, painted on
- Appliqued – ridges of clay are applied in a pattern onto the surface of the vessel before firing
- Pinched – wet clay of the vessel surface is pinched into pattern or design
- Etched/excised – surface of vessel is etched away to form a design in “negative,” sometimes from a slipped surface
- Brushed – very closely spaced, wet paste incising
- Stamped – multiple pronged tool impressed into wet paste

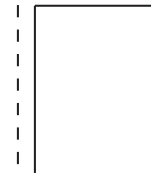
Notes on Measurements:

- Take all orifice diameters from the interior edges
- Make sure to record any changes in unit of measurement if you switch

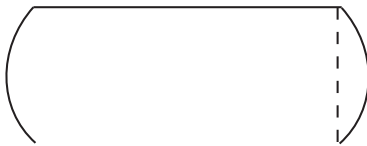
Concave Rim Shape



Straight Rim Shape



Convex Rim Shape



Dashed lines highlight rim angle, a descriptive category independent of shape. Rim angles can be vertical, outslanted, inslanted, compound or carinated.